UNIVERSITY OF ZAGREB
FACULTY OF TEXTILE TEHNOLOGY

CURRICULUM FOR UNDERGRADUATE
PROFESSIONAL STUDY :

TEXTILE, CLOTHING and FOOTWEAR TECHNOLOGY

Zagreb, travanj 2009.

1. INTRODUCTION

The Croatian Society of Leather and Footwear Association asked the Faculty of Textile Technology to consider the possibility of introducing the module of footwear design within the study TOOT since there is a shortage of professional staff of this kind. All considered will participate in creating curricula, enable practical training in their plants and enable their employees to attend classes (Appendix 1).
Based on the former initiative the Faculty of Textile Technology and representatives of the leather and footwear industry created this curriculum, and a permit is being asked for.
The Faculty of Textile Technology already has a permit for the professional study of Textile, Garment and Footwear Technology with 3 modules, and Footwear Design (DO) would be a new module.

2. GENERAL PART

2.1.NAME OF STUDY AND MODULE

Study of textile, garment and footwear technology
Name of module: FOOTWEAR DESIGN (DO)

2.2 FACULTY IN CHARGE OF THE STUDY

Faculty of Textile Technology, University of Zagreb

2.3 DURATION OF THE STUDY

The study takes 3 years (six semesters)

2.4 CONDITIONS OF ENROLMENT INTHE MODULE

- completed secondary school
- secondary school performance
- performance in the entrance examination in drawing (necessary only if more candidates registered than specified by the enrolment quota

2.5 TYPE OF STUDY

Professional study of the textile, garment and footwear technology takes 6 semesters. Upon its completion of students earn 180 ECTS credits. The study consists of four modules:
- Textile Technology – Mechanical Technology
- Textile Technology – Chemical Technology
- Clothing Technology
- Footwear technology
- Footwear Design

2.6 PROFESSIONAL OR ACADEMIC TITLES OR DEGREE EARNED UPON COMPLETION OF THE STUDY

Upon completion of the study students are awarded a professional title of:
baccalaureus or baccalaurea in textile technology, in clothing technology and in footwear design of the module footwear design

2.7 COMPATIBLE STUDY IN EUROPE

The compatible study of the module Footwear Design is at Fachhochschule Pirmasens (University of Applied Sciences), Germany.

2.8 POSSIBILITY OF FURTHER STUDY AT UNIVERSITY LEVEL

Upon completion of this professional study students can continue studying at university-level at the Faculty of Textile Technology in Zagreb.

3. PROGRAM DESCRIPTION

3.1 LIST OF MANDATORY AND OPTIONAL COURSES AND MODULES WITH THE NUMBER OF HOURS OF ACTIVE CLASSES AND ECTS CREDITS

The study of textile and footwear technology (TOOT) consists of four modules:
- Textile Technology – Mechanical Technology
- Textile Technology – Chemical Technology
- Clothing Technology
- Footwear technology
- **Footwear Design**

During the first 2 semesters of study the courses are predominantly in general disciplines (mathematics, physics, chemistry, computing, and mechanical engineering). Afterwards fundamental courses are taught (fibers and materials for manufacturing textiles and leather), followed by courses of narrower specialization related to the production of linear and textile surface materials, clothing and footwear.
The contents and order of subjects has been defined by the didactic connection of profession with basic disciplines.
The curriculum of the study of Textile, Clothing and Footwear Technology is harmonized with the requirements of the representatives of the textile and footwear industry.

3.2 DESCRIPTION OF THE SUBJECT OF STUDY

The descriptions or contents of the subject of study are given in section 5. The evaluation of the students' workload is performed using the ECTS credits. This means that all student obligations in one semester are evaluated with 30 ECTS credits, and each teaching duty, including all activities of students related to it, brings as many credits as is its share in the total student workload. The student can earn more than 30 ECTS credits by taking optional courses, but this surplus does not cover the mandatory courses.

3.3 STRUCTURE OF STUDY, PACE OF STUDY AND STUDENTS' OBLIGATIONS. CONDITIONS OF ENROLMENT INTHE NEXT SEMESTER OR THE NEXT YEAR OF STUDY AND PREREQUISITES FOR ENROLMENT INEACH SUBJECT

The study is designed in such a way that with adequate student engagement the student studies according to the principle of one year for the year.
The student is expected to attend classes regularly and to participate actively. The study program enables the student to fulfill the obligations of each course during classes or immediately upon completion of classes. The system of the continuous verification of knowledge in preliminary exams as well as home works encourages the student to an intensive continuous study; this is a prerequisite for the successful monitoring of classes and taking exams so that the student studies regularly, makes progress in the study and completes the study within the set deadline. The general study concept is based on the adequate student workload (lecturers, exercises, seminars), 26 hours monthly in the study.

The conditions of enrolment in higher years of study are as follows:
- both semesters of the previous registered as completed
- all exams of the previous year of study passed

3.4 LIST OF SUBJECTS OR COURSES OF OTHER STUDIES TO BE SELECTED BY THE STUDENTS

All courses in the professional study, except the mandatory ones of footwear design, are optional at the student's request and with the mentor's consent.
The student has the possibility to enroll an optional course offered by other higher education institutions at his own option and in agreement with the mentor.

3.5 CRITERIA AND CONDITIONS OF TRANSFERING ECTS CREDITS, THE CRITERIA AND CONDITIONS OF TRANSFER OF ECTS CREDITS – ADDITION OF THE VALUE OF CREDITS TO THE SUBJECTS THE STUDENTS CAN SELECT FROM OTHER UNIVERSITY-LEVEL.STUDIES OR OTHER HIGHER EDUCATION INSTITUTIONS

The value of the ECTS credits of the course the student wishes to enroll in another study program or at another higher education institution is principally recognized. The recognition of the exams passed in another study program or at another higher education institution shall be approved by the subject teacher at the home faculty, and the transfer of the optional courses shall be approved by the mentor.

3.6 MANNER OF COMPLETION OF STUDY

The study shall be completed by writing and defending the thesis the student writes in the last, 6th semester. The student shall defend the thesis after passing all examinations and fulfilling other study obligations of all completed courses.

3.7 PROVISIONS ON WHETHER AND UNDER WHAT CONDITONS STUDENTS WHO HAVE INTERRUPTED THE STUDY OR HAVE LOST THE RIGHT TO STUDY IN ONE PROGRAM MAY CONTINUE THE STUDY

The study may be continued without conditions if the interruption is shorter than 2 years. If the interruption is longer, the differences in the study programs and a need for the enrolment in the corresponding courses shall be found.

4. CONDITIONS OF THE CONDUCT OF STUDY

4.1 PLACE OF TEACHING

In addition to the university study in Zagreb, the Faculty of Textile Technology also conducts the professional study at its dislocated study in Varaždin.

4.2 PREMISES AND EQUIPMENT

The Faculty of Textile Technology occupies an area surface of 6,200 m^2. There are 19 lecture rooms with a total surface area of 1,120 m^2. Three lecture rooms have 92 seating places each, three lecture rooms with 80 seating places each, while smaller lecture rooms have between 30 and 60 seating places. There are 17 laboratories and 3 work shops with modern equipment. The computer work shops within the laboratories have the most contemporary software.

The Varaždin premises occupy a surface area of 1,200 m^2 with 6 lecture rooms, a laboratory, a library, a computer work shop and a design and technology studio. There are agreements with factories where professional practice is carried out in their plants (Appendix 2). The modern equipment of the home faculty in Zagreb is also used for specific exercises.

Module of Textile Technology – Mechanical (TTM)

After restructuring of the textile industry, new requirements for professional education of engineers in production are set. Engineers with understanding of today's global economy and fast adjusting of programmes to the international market are needed. Graduating from this module the student will obtain a complete knowledge on conducting the process of manufacturing yarns, fabrics, knitted goods, haberdashery, unwoven and technical textiles. Besides, through professional education which consists of 60 % practice with the emphasis on 20 hours of industrial training in the 5th and 6th terms, conditions for self-employment of a young engineer are established.

	I. Term						
	Courses	**L**	**P**	**S**	**L+P+S**	**E**	**ECTS**
1	Mathematics	3	3	0	6	E	8
2	Physics I	3	2	0	5	E	6
3	Computing	2	3	0	5	E	5
4	Fibres I	3	3	0	6	E	7
5	Foreign Language I	2	2	0	4	P	4
6							
7							
8							
Σ		**13**	**13**	**0**	**26**		
	Physical Education	0	2				
							30

	II. Term						
	Courses	**L**	**P**	**S**	**L+P+S**	**E**	**ECTS**
1	General Chemistry	2	2	1	5	E	7
2	Basics of Mech.Engineering	2	2	0	4	E	5
3	Textile Materials	3	3	0	6	E	6
4	Thermodynamics	2	2	0	4	E	5
5	Foreign Language II	1	2	0	3	P	2
6	Optional Courses						5
7							
8							
Σ		**10**	**11**	**1**	**22**		
	Physical Education	0	2				
							30

	III. Term						
	Courses	**L**	**P**	**S**	**L+P+S**	**E**	**ECTS**
1	Statistics	2	1	1	4	E	5
2	Mechanics	2	2	1	5	E	6
3	Economics	2	0	2	4	E	5
4	Basics of Design	2	0	0	2	P	2
5	Spinning Technology I	2	1	0	3	E	5
6	Foreign Language III	1	1	0	2	P	2
7	Optional Courses						5
8							
Σ		**11**	**5**	**4**	**20**		
	Physical Education	0	2				
							30

	IV. Term						
	Courses	**L**	**P**	**S**	**L+P+S**	**E**	**ECTS**
1	Spinning Technology II	3	4	0	7	E	8
2	Yarn PreparationTechnology.	2	2	0	4	E	5
3	Weaving Technology	3	4	0	7	E	9
4	Basics of Textile Finishing	2	1	0	3	P	3
5	Basics of Clothing Production	2	1	0	3	P	3
6	Yarn Structure and Properties	1	1	0	2	E	2
7							
8							
Σ		**13**	**13**	**0**	**26**		
	Physical Education	0	2				
							30

	V. Term						
	Courses	**L**	**P**	**S**	**L+P+S**	**E**	**ECTS**
1	Knitting Technology	3	4	0	7	E	8
2	Nonwoven a.Technical Textile	2	2	0	4	E	5
3	Practical Training TTM	0	9	1	10	E	10
4	Optional Courses						7
5							
6							
7							
8							
Σ		**5**	**15**	**1**	**21**		
							30

	VI. Term						
	Courses	**L**	**P**	**S**	**L+P+S**	**E**	**ECTS**
1	Patte.a.Const.of fKnitted Fabr.	2	3	0	5	E	5
2	Weavs a.Fabr. Constructions	2	3	0	5	E	5
3	Physico-mech Testing ofTex.	2	3	0	5	E	5
4	Optional Courses						10
5	Bachelor's Thesis						5
6							
7							
8							
Σ		**6**	**9**	**0**	**15**		
							30

Optional Courses* - pregraduation professional study:TTM

Optional Courses*								
	Courses	**Term**	**L**	**P**	**S**	**L+P+S**	**E/P**	**ECTS**
1	Electrotechnics and Electronics	II	2	2	0	4	E	5
2	Physics II	II	2	2	0	4	E	5
3	Work and Cost Study	III	1	2	0	3	P	3
4	Hand Weaving	III	0	1	2	3	P	2
5	Acoustic Methods a. Ultrasound Technique	III	0	1	2	3	P	2
6	New Spinning Methods	V	2	3	0	5	E	7
7	Computer Aided Design of Woven Fabrics	V	2	3	0	5	E	7
8	Jacquard Weaving	V	2	3	0	5	E	7
9	Spinning Practice	VI	0	4	1	5	P	5
10	Practical Training in Weaving	VI	0	5	0	5	P	5
11	Practical Training in Knitting	VI	0	4	1	5	P	5
12								
13								
14								

* Students who want to gain knowledge in other fields of learning can take courses in other institutions of higher learning in consultation with their tutors.

Module of Textile Technology – Chemical (TTK)

For the textile manufacturing, the finishing process is especially important because it gives special properties to the materials which are processed according to their purpose and market requirements.
In the first two terms the student attends general courses and some basic professional courses.
In the following terms, beside the mentioned courses, the emphasis lies on specific professional courses.
In this way the student obtains knowledge which enables him to conduct the technological processes of textile pretreatment, dyeing, finishing and printing.

	I. Term						
	Courses	**L**	**P**	**S**	**L+P+S**	**E**	**ECTS**
1	Mathematics	3	3	0	6	E	8
2	Physics I	3	2	0	5	E	6
3	Computing	2	3	0	5	E	5
4	Fibres I	3	3	0	6	E	7
5	Foreign Language I	2	2	0	4	P	4
6							
7							
8							
Σ		**13**	**13**	**0**	**26**		
	Physical Education	0	2				
							30

	II. Term						
	Courses	**L**	**P**	**S**	**L+P+S**	**E**	**ECTS**
1	General Chemistry	2	2	1	5	E	7
2	Basics of Mech. Engineering	2	2	0	4	E	5
3	Textile Materials	3	3	0	6	E	6
4	Thermodynamics	2	2	0	4	E	5
5	Foreign Language II	1	2	0	3	P	2
6	Optional Courses						5
7							
8							
Σ		**10**	**11**	**1**	**22**		
	Physical Education	0	2				
							30

	III. Term						
	Courses	**L**	**P**	**S**	**L+P+S**	**E**	**ECTS**
1	Statistics	2	1	1	4	E	5
2	Organic Chemistry	2	2	0	4	E	5
3	Pretreatment ofText.Finishing	2	2	0	4	E	5
4	Economics	2	0	2	4	E	5
5	Basics of Design	2	0	0	2	P	2
6	Foreign Language III	1	1	0	2	P	2
7	Optional Courses						6
8							
Σ		**11**	**6**	**3**	**20**		
	Physical Education	0	2				
							30

	IV. Term						
	Courses	**L**	**P**	**S**	**L+P+S**	**E**	**ECTS**
1	Textile Finishing Technology	2	2	0	4	E	5
2	Textile Dyeing Technology	2	3	0	5	E	6
3	Analytical Chemistry	1	2	0	3	E	4
4	Colour Basics	1	1	0	2	P	2
5	Fibres II	3	3	0	6	E	7
6	Basics of Textile Production	2	1	0	3	P	3
7	Basics of Clothing Production	2	1	0	3	P	3
8							
Σ		**13**	**13**	**0**	**26**		
	Physical Education	0	2				
							30

	V. Term						
	Courses	**L**	**P**	**S**	**L+P+S**	**E**	**ECTS**
1	Computer Aided Reciping	1	2	0	3	P	3
2	Textile Finishing Operations	2	2	0	4	E	5
3	Nonwoven a.Technical Text.	2	2	0	4	E	5
4	Practical Training TTK	0	9	1	10	P	11
5	Optional Courses						6
6							
7							
8							
Σ		**5**	**15**	**1**	**21**		
							30

	VI. Term						
	Courses	**L**	**P**	**S**	**L+P+S**	**E**	**ECTS**
1	Textile Testing	2	4	0	6	E	6
2	Textile Printing Technology	2	3	0	5	E	5
3	Textile Care Processes	2	3	0	5	E	4
4	Optional Courses					E	10
5	Bachelor's Thesis						5
6							
7							
8							
Σ		**6**	**10**	**0**	**16**		
							30

Optional courses*- Pregraduation professional study: TTK

Optional Courses*								
	Courses	**Term**	**L**	**P**	**S**	**L+P+S**	**E/P**	**ECTS**
1	Electrotechnics and Electronics	II	2	2	0	4	E	5
2	Physics II	II	2	2	0	4	E	5
3	Garment Finishing	III	1	2	0	3	E	3
4	Textile and Environment Protection	III	1	2	0	3	P	3
5	Textile Damage Detection	III	1	2	0	3	P	3
6	Auxiliaries in Textile Finishing	III	1	2	0	3	E	3
7	Mechanical Textile Finishing	V	2	3	0	5	E	6
8	Optical Methods and Laser Technique	V	1	1	1	3	P	4
9	Detergents	V	1	2	0	3	E	2
10	Practical Training in Textile Pretreatment	VI	0	4	1	5	E	5
11	Practical Training in Textile Finishing	VI	0	4	1	5	E	5
12	Practical Training in Textile Dyeing	VI	0	4	1	5	E	5
13	Practical Training in Textile Printing	VI	0	4	1	5	E	5
14								

* Students who want to gain knowledge in other fields of learning can take courses in other institutions of higher learning in consultation with their tutors.

Module of Clothing Technology (OT)

In the module of Clothing Technology the students are trained for independent work as engineers in charge of working out the technological documentation for the processes of cutting, sewing and finishing the clothes, making analysis of time and work rationalization, as well as of planning and economic use of materials. They are also trained to become independent designers of modern clothes, managers in production lines in technological processes of clothing manufacturing, plant managers, controllers, as well as entrepreneurs in private sector.

	I. Term						
	Courses	**L**	**P**	**S**	**L+P+S**	**E**	**ECTS**
1	Mathematics	3	3	0	6	E	8
2	Physics I	3	2	0	5	E	6
3	Computing	2	3	0	5	E	5
4	Fibres I	3	3	0	6	E	7
5	Foreign Language I	2	2	0	4	P	4
6							
7							
8							
Σ		**13**	**13**	**0**	**26**		
	Physical Education	0	2				
							30

	II. Term						
	Courses	**L**	**P**	**S**	**L+P+S**	**E**	**ECTS**
1	General Chemistry	2	2	1	5	E	7
2	Basics of. Mech. Engineering	2	2	0	4	E	5
3	Textile Materials	3	3	0	6	E	6
4	Thermodynamics	2	2	0	4	E	5
5	Foreign Language II	1	2	0	3	P	2
6	Optional Courses						5
7							
8							
Σ		**10**	**11**	**1**	**22**		
	Physical Education	0	2				
							30

	III. Term						
	Courses	**L**	**P**	**S**	**L+P+S**	**E**	**ECTS**
1	Statistics	2	1	1	4	E	5
2	Fundam. of Clothing Design	2	2	0	4	E	5
3	Techn. Prepar.in Cloth.Produ.	2	3	0	5	E	6
4	Economics	2	0	2	4	E	5
5	Foreign Language III	1	1	0	2	P	2
6	Optional Courses						7
7							
8							
Σ		**9**	**7**	**3**	**19**		
	Physical Education	0	2				
							30

	IV. Term						
	Courses	**L**	**P**	**S**	**L+P+S**	**E**	**ECTS**
1	Clothing Construction I	2	3	0	5	E	7
2	Clothes Cutting Technology	2	2	0	4	E	5
3	Machin.a.Autom.for Clorh.Tech.	2	4	0	6	E	7
4	Work Study	2	2	0	4	E	5
5	Basics of Textile Production	2	1	0	3	P	3
6	Basics of Textile Finishing	2	1	0	3	P	3
7							
8							
Σ		**12**	**13**	**0**	**25**		
	Physical Education	0	2				
							30

	V. Term						
	Courses	**L**	**P**	**S**	**L+P+S**	**E**	**ECTS**
1	Clothing Construction II	2	2	0	4	E	5
2	Clothes Modelling	1	2	0	3	E	4
3	Techn. Process of Sewing	2	3	0	5	E	6
4	Practical Training OT	0	9	1	10	P	10
5	Optional Courses						5
6							
7							
8							
Σ		**5**	**16**	**1**	**22**		
							30

	VI. Term						
	Courses	**L**	**P**	**S**	**L+P+S**	**E**	**ECTS**
1	Computer Clothing Construction	2	4	0	6	E	6
2	Testing of Textiles a.Clothing	2	3	0	5	E	5
3	Clothes Finishing Technology	2	2	0	4	E	4
4	Optional Courses						10
5	Bachelor's Thesis						5
6							
7							
8							
Σ		**6**	**9**	**0**	**15**		
							30

Optional courses*- Pregraduation professional study: OT

Optional Courses*								
	Courses	**Term**	**L**	**P**	**S**	**L+P+S**	**E/P**	**ECTS**
1	Electrotechnics and Electronics	II	2	2	0	4	E	5
2	Physics II	II	2	2	0	4	E	5
3	Economics of Enterpreneurship in Textile	III	2	1	0	3	P	4
4	Computers in Business	III	1	1	1	3	P	3
5	Ultrasound and Laser Technique	III	2	1	0	3	P	4
6	Basics of Accountancy	V	2	2	0	4	E	5
7	Textile Chemistry	V	2	2	0	4	E	5
8	Pract. Training in Technolog. a. Operative Preparation	VI	0	9	1	10	P	10
9	Practical Training in Construction Preparation	VI	0	9	1	10	P	10
10								
11								
12								
13								
14								

* Students who want to gain knowledge in other fields of learning can take courses in other institutions of higher learning in consultation with their tutors.

Module of Footwear Technology (OBT)

The concentration of footwear industry in the counties of Varaždin and Međimurje arises the necessity of starting the module of Footwear Technology within the professional study in Varaždin. The first term is practically identical for all four modules. In the course of their study students gain knowledge in general disciplines. Beside the courses common to all modules, in the second term they get more information about their line of profession. During the second and third year of study, they attend professional courses, the programmes of which meet the requirements of the footwear industry. Practice and professional training in modern equipped laboratories and industrial facilities provide the students with practical knowledge. The students are also expected to be engaged on projects. After graduating, they have possibilities to work as technologists and managers of different steps in production, or to work in commercial agencies, trading firms, and as assistant teachers for practical training in secondary vocational schools.

	I. Term						
	Courses	**L**	**P**	**S**	**L+P+S**	**E**	**ECTS**
1	Mathematics	3	3	0	6	E	8
2	Physics I	3	2	0	5	E	6
3	Computing	2	3	0	5	E	6
4	Textile Fibres and Materials	3	2	1	6	E	6
5	Foreign Language I	2	2	0	4	P	4
6							
7							
8							
Σ		**13**	**12**	**1**	**26**		
	Psysical Education	0	2				
							30

	II. Term						
	Courses	**L**	**P**	**S**	**L+P+S**	**E**	**ECTS**
1	Basics of Mech. Engineering	2	2	0	4	E	5
2	Biomechanics	1	2	0	3	E	4
3	General Chemistry	2	2	1	5	E	7
4	Thermodynamics	2	2	0	4	E	5
5	Anatomy	1	1	0	2	P	2
6	Foreign Language II	1	2	0	3	P	2
7	Optional Courses						5
8							
Σ		**9**	**11**	**1**	**21**		
	Physical Education	0	2				
							30

	III. Term						
	Courses	**L**	**P**	**S**	**L+P+S**	**E**	**ECTS**
1	Footwear Model.a. Constru.I	2	2	0	4	P	5
2	Footwear Prod. Technology I	2	3	0	5	P	5
3	Leather Production	2	3	0	5	E	6
4	Organic Chemistry	2	2	0	4	E	5
5	Economics	2	0	2	4	E	5
6	Foreign Language III	1	1	0	2	P	2
7	Basics of Design	2	0	0	2	P	2
8							
Σ		**13**	**11**	**2**	**26**		
	Physical Education	0	2				
							30

	IV. Term						
	Courses	**L**	**P**	**S**	**L+P+S**	**E**	**ECTS**
1	Footwear Model. a.Constr. II	3	4	0	7	E	6
2	Footwear Product. Techno. II	2	3	0	5	E	6
3	Machin.a.Mechan.in Fo.Ind. I	2	1	0	3	E	4
4	Autom.in Footwear Product.	2	2	0	4	E	6
5	Work Study	2	2	0	4	E	5
6	Struct. A. Properties of Mater.	1	1	0	2	P	3
7							
8							
Σ		**12**	**13**	**0**	**25**		
	Physical Education	0	2				
							30

	V. Term						
	Courses	**L**	**P**	**S**	**L+P+S**	**E**	**ECTS**
1	Matrials inFootw.Product. I	2	2	0	4	E	4
2	Mach.a.Mechan.in Fo.Ind. II	2	1	0	3	E	4
3	Computer Aided Fo.Design	1	2	0	3	E	3
4	Practical Training OBT	0	9	1	10	P	10
5	Optional Courses						9
6							
7							
8							
Σ		**5**	**14**	**1**	**20**		
							30

	VI. Term						
	Courses	**L**	**P**	**S**	**L+P+S**	**E**	**ECTS**
1	Quality Management	2	3	0	5	E	5
2	Materials in Footw. Produc. II	1	2	0	3	E	3
3	Cementing Oper.a.Adhesives	2	2	0	4		3
4	Last Construction	2	2	0	4	E	4
5	Optional Courses						10
6	Bachelor's Thesis						5
7							
8							
Σ		**7**	**9**	**0**	**16**		
							30

Optional courses* - Pregraduation professional study: OBT

Optional Courses*								
	Courses	**Term**	**L**	**P**	**S**	**L+P+S**	**E/P**	**ECTS**
1	Electrotechnics and Electronics	II	2	2	0	4	E	5
2	Physics II	II	2	2	0	4	E	5
3	Colour Order System	V	2	1	0	3	E	5
4	Optical Methods and Laser Technique	V	1	1	1	3	P	4
5	Ecology in Leather and Footwear Industry	V	1	1	1	3	E	4
6	Pract.Training in Preparation of Footwear Product.	VI	0	8	2	10	P	10
7	Practical Training in Footwear Production	VI	0	8	2	10	P	10
8						0		
9						0		
10						0		
11								
12								
13								
14								

* Students who want to gain knowledge in other fields of learning can take courses in other institutions of higher learning in consultation with their tutors.

Module of Footwear Design (DO)

The concentration of footwear industry in the counties of Varaždin and Međimurje arises the necessity of starting the module of Footwear Design within the professional study in Varaždin. In the course of their study, students gain knowledge in general disciplines (chemistry, computer science, foreign language etc.) and professional knowledge attending the courses according to the programmes corresponding to the demands of footwear industry like footwear materials, biomechanics, footwear production technology.
Beside the professional technical and theoretical knowledge in footwear technology, the programme of this module also develops the student's creative abilities especially laying stress upon individual creative thinking and encourages making experiments, investigating and innovations ranging from creating ideas to the realisation of 3D footwear forms. Thus, the student is enabled to apply the creative components of art and design to the real process of footwear production. Individuality and creativity of the educational process are the basis for individuality and creativity of students, who synthesizing the gained knowledge in the field of footwear production technology and footwear design, become experts in their profession having all the possibilities to work in the sphere of footwear fashion design.

	I. Term						
	Courses	**L**	**P**	**S**	**L+P+S**	**E**	**ECTS**
1	Basics of Footwear Design	2	4	0	6	E	6
2	Drawing and Painting	1	3	0	4	P	4
3	Computing	2	3	0	5	E	6
4	General Chemistry	2	2	1	5	E	7
5	Economics	2	0	0	2	E	3
6	Foreign Language I	2	2	0		P	4
7							
Σ		**11**	**14**	**1**	**26**		
	Physical Education	0	2				
							30

	II. Term						
	Courses	**L**	**P**	**S**	**L+P+S**	**E**	**ECTS**
1	Footwear Model.a. Constru.I	2	3	0	5	E	6
2	Biomechanics	2	0	2	4	E	4
3	Basics of Leather Processing	2	1	0	3	E	4
4	Textile Fibres and Materials	3	2	0	5	E	7
5	Anatomy	1	1	0	2	E	3
6	Foreign Language II	1	2	0	3	P	2
7	Optional Courses						4
8							
Σ		**11**	**9**	**2**	**22**		
	Physical Education	0	2				
							30

	III. Term						
	Courses	**L**	**P**	**S**	**L+P+S**	**E**	**ECTS**
1	Footwear Model.a. Constru.I	2	2	0	4	P	5
2	Footwear Prod. Technology I	2	3	0	5	E	6
3	Fashion Theory	2	0	1	3	E	4
4	Artistic and Graphic Composition	1	2	0	3	P	4
5	Design of Leather Articles	1	3	0	4	P	5
6	Foreign Language III	1	1	0	2	P	2
7	Optional Course						4
8							
Σ		**9**	**11**	**1**	**21**		
	Physical Education	0	2				
							30

	IV. Term						
	Courses	**L**	**P**	**S**	**L+P+S**	**E**	**ECTS**
1	Footwear Product. Techno. II	2	3	0	5	E	6
2	Machin.a.Mechan.in Fo.Ind. I	2	2	0	4	E	4
3	Autom.in Footwear Product	2	2	0	4	E	6
4	Ecology in Leather and Footwear Industry.	2	1	0	3	E	5
5	Struct. a. Properties of Mater.	2	1	0	3	P	4
6	Computeraided Footwear Design	1	2	1	4	P	5
7							
8							
Σ		**11**	**11**	**1**	**23**		
	Physical Education	0	2				
							30

	V. Term						
	Courses	**L**	**P**	**S**	**L+P+S**	**E**	**ECTS**
1	Matrials in Footw Industry	2	2	0	4	E	4
2	History of Fo. a. Accessories	2	0	2	4	E	5
3	Footwear .Design	1	2	0	3	P	3
4	Practical Training DO	0	9	1	10	P	10
5	Optional Courses						8
6							
7							
8							
Σ		**5**	**14**	**1**	**20**		
							30

	VI. Term						
	Courses	**L**	**P**	**S**	**L+P+S**	**E**	**ECTS**
1	Quality Management	2	3	0	5	E	5
2	Anthropometry a. Sizes in Footw.	1	2	0	3	E	3
3	Cementing Oper.a.Adhesives	2	2	0	4	E	3
4	Last Construction	2	2	0	4	E	4
5	Optional Courses						10
6	Bachelor's Thesis						5
7							
8							
Σ		**7**	**9**	**0**	**16**		
							30

Optional courses* - Pregraduation professional study: DO

Optional Courses*								
	Courses	**Term**	**L**	**P**	**S**	**L+P+S**	**E/P**	**ECTS**
1	Electrotechnics and Electronics	II	2	2	0	4	P	5
2	Physics	II	2	2	0	4	E	5
3	Colour Order System	V	2	1	0	3	P	5
4	Optical Methods and Laser Technique	V	1	1	1	3	P	4
5	Ergonomics	V	2	1	0	3	P	4
6	Work Study		2	2	0	4	P	5
7	Management		2	0	1	3	P	4
8	Communication a. Product Presentation		1	0	2	3	P	4
9	History of Art		2	0	1	3	E	4
10	Aesthetics		2	0	1	3	E	4
11	Pract.Training in Preparation of Footwear Product.		0	8	2	10	P	10
12	Practical Training in Footwear Production		0	8	2	10	P	10

* Students who want to gain knowledge in other fields of learning can take courses in other institutions of higher learning in consultation with their tutors.

4.3. College Teachers and Assistants Conducing the Courses

Course	Teacher	Employed
Acoustic Methods and Ultrasound Technique	M. Cerovec	yes
Aesthetics	M. Galović	yes
Analytical chemistry	Lj. Bokić	yes
Anatomy	P. Keros	no
Anthropometry a. Sizes in Footw	D. Ujević	yes
Artistic and Graphic Composition	Z. Mencl-Bajs	yes
Automation in Footwear Production	G. Nikolić	yes
Auxiliaries in Textile Finishing	A.M. Grancarić	yes
Basics of Accn ountancy	S. Tadijančević	no
Basics of Clothing Production	T. Koren	yes
Basics of Design	M. Cvitan	yes
Basics of Footwear Desig	N. Režek-Wilson	yes
Basics of Leather Processing	J. Akalović	yes
Basics of Mechanical Engineering	B. Mijović	yes
Basics of Textile Finishing	N. Hainš	yes
Basics of Textile Production	V. Strmečki	yes
Biomechanics	B. Mijović	yes
Cementing Operations and Adhesives	J. Akalović	yes
Clothes Cutting Technology	T. Koren	yes
Clothing Construction I	T. Koren	yes
Clothing construction II	T. Koren	yes
Clothes Finishing Technology	T. Koren	yes
Clothes Modelling	T. Koren	yes
Colour Basics	Lj. Dugan	yes
Colour Order System	Đ. Parac-Osterman/Lj.Dugan	yes
Communication a. Product Presentation	Z. Mencl-Bajs	yes
Computer Aided Design of Woven Fabrics	V. Strmečki	yes
Computer Aided Footwear Design	D. Rogale	yes
Computer Aided Reciping	Lj. Dugan/ Đ. Parac-Osterman	yes
Computer Clothing Construction	D. Rogale	yes
Computers in Business	D. Grundler	yes
Computing	D. Grundler	yes
Design of Leather Articles	M. Vinković	yes
Detergents	T. Pušić	yes
Drawing and Painting	N. Režek-Wilson	yes
Ecology in Leather and Footwear Industry	M. Cetina, B. Vojnović	yes
Economics	M. Tratnik	no
Economics of Enterpreneurship in Textile	M. Tratnik	no
Electrotechnics and Electronics	G. Hudec	yes
English Language I	J. Tabak	yes
English Language II	J. Tabak	yes
English Language III	J. Tabak	yes

Ergonomics	B. Mijović	yes
Fashion Theory	Ž. Paić	yes
Fibres I	V. Friščić	yes
Fibres II	V. Friščić	yes
Footwear .Design	M. Vinković	yes
Footwear Modelling and Construction I	D. Ujević	yes
Footwear Modelling and Construction II	D. Ujević	yes
Footwear Production Technology I	D. Rogale	yes
Footwear Production Technology II	D. Rogale	yes
Fundamentals of Clothing Design	M. Vinković	yes
Garment Finishing	I. Soljačić/T. Pušić	yes
General Chemistry	M. Cetina	yes
German Language I	J. Tabak	yes
German Language II	J.Tabak	yes
German Language III	J. Tabak	yes
Hand Weaving	S. Kovačević	yes
History of Art	N. Režek-Wilson	yes
History of Fo. a. Accessories	N. Režek-Wilson	yes
Jacquard Weaving	V. Strmečki	yes
Knitting Technology	Z. Vrljičak	yes
Last Construction	B. Mijović	yes
Machinery and Automata for Clothing Technology	G. Nikolić	yes
Machinery and Mechanisms in Footwear Industry	G. Nikolić	yes
Management	M. Tratnik	no
Materials in Footwear Production	A.M. Grancarić	yes
Mathematics	M. Božičević	yes
Mechanical Textile Finishing	D. Katović	yes
Mechanics	M. Cerovec	yes
New Spinning Methods	Z. Skenderi	yes
Nonwoven and Technical Textile	Z. Skenderi	yes
Optical Methods and Laser Technique	M. Cerovec	yes
Organic Chemistry	V. Tralić	yes
Pattern and Construction of Knitted Fabrics	Z. Vrljičak	yes
Physico-mechanical Testing of Textiles	V. Friščić	yes
Physics	M. Cerovec	yes
Physics I	M. Cerovec	yes
Physics II	M. Cerovec	yes
Practical Training DO	S. Rogale	yes
Practical Training in Construction Preparation	T. Koren	yes
Practical Training in Footwear Production	S. Rogale	yes
Practical Training in Knitting	Z. Vrljičak	yes
Practical Training OT	T. Koren	yes
Practical Training in Preparation of Footwear Production	S. Rogale	yes
Practical Training in Technological and Operative Preparation	T. Koren	yes
Practical Training in Textile Dyeing	Lj. Dugan	yes

Practical Training in Textile Finishing	N. Hainš	yes
Practical Training in Textile Pretreatment	N. Hainš	yes
Practical Training in Textile Printing	Lj. Dugan	yes
Practical Training in Weaving	J. Hađina	yes
Practical Training TTK	Lj. Dugan/N. Hainš	yes
Practical Training TTM	V. Strmečki	yes
Pretreatment of Textile Finishing	N. Hainš	yes
Quality Management	A. Tomljenović	yes
Spinning Practice	Z. Skenderi	yes
Spinning Technology I	Z. Skenderi	yes
Spinning Technology II	Z. Skenderi	yes
Statistics	M. Božičević	yes
Structure and Properties of Materials	A.M. Grancarić	yes
Technical Preparation in Clothing Production	T. Koren	yes
Technological Process of Sewing	T. Koren	yes
Testing of Textiles and Clothing	V. Friščić	yes
Textile and Environment Protection	S. Bischof/D. Katović	yes
Textile Care Processes	T. Pušić	yes
Textile Chemistry	D. Došen-Šver	yes
Textile Damage Detection	E. Pezelj	yes
Textile Dyeing Technology	Lj. Dugan	yes
Textile Fibres and Materials	V. Friščić/V. Strmečki	yes
Textile Finishing Operations	N. Hainš	yes
Textile Finishing Technology	N. Hainš	yes
Textile Materials	V. Strmečki	yes
Textile Printing Technology	Lj. Dugan	yes
Textile Testing	V. Friščić	yes
Thermodynamics	A. Mihelić-Bogdanić	yes
Ultrasound and Laser Technique	M. Cerovec	yes
Weaving Technology	J. Hađina/V. Strmečki	yes
Weavs and Fabric Constructions	V. Strmečki	yes
Work and Cost Study	S. Kovačević	yes
Work Study	Z. Dragčević	yes
Yarn Preparation Technology	V. Strmečki	yes
Yarn Structure and Properties	Z. Skenderi	yes

4.4. Information about Each of the Engaged Teachers

Information about each of the engaged teachers can be found in Appendix 2.

4.5. List of Working Places for Practical Training

Practical training is carried out in faculty owned workshops and laboratories under supervision of teachers and assistants as well as in the firms Midal.d.o.o., Ivančica, Varteks, Bambi etc.

4.6. The Optimal Number of Enrolled Students Concerning Lecture Rooms, Equipment and Number of Teachers

Capacity of teachers and lecture rooms enable pregraduation studies:

Professional studies: textile, clothing and footwear technologies	**100**
Textile technology	25
Clothing technology	50
Footwear technology	
and/or	
Footwear design	25

4.7. Cost Assessment pro Student

Studying expenses for one student in pregraduation studies will amount to 15.000,00 kn a year.

4.8. Ways of Supervising Quality and Successful Realisation of Curriculum and Especially the Way of Students Taking Part in Curricula Assessme

The quality and success of curriculum realisation is supervised by the Dean's Board, Faculty Council based on the yearly report of Assistant Dean of Instruction and by students' poll initiated by the Quality Control Office.

5. SUPLEMENTS

	Course:	Acoustic Methods and Ultrasound Technique
Teacher in charge:	***Course summary:***	3(0+1+2)
Cerovec Milan	***ECTS:***	2
	Course type:	optional basis
	Course is preformed:	
	Name of study:	TOOT
	Module:	TTM
	Study:	pregraduation
	Term:	3rd term

Lecture type:	***Literature necessary for course:***
seminars	R.H.Randall:An Introduction to Acoustics, Dover Publications,2005. F.AltonEverest:Master Handbook of Acoustics & Methods..
Exercise type:	P.Filippi : Basic Physics Theory & Methods. H.J.Pain : The Physics of Wibration and Waves, John Wiley & Sons, 1999.
seminars	
Knowledge verification:	***Supplement literature:***
preliminary exam	H.J.Gray,A. Issacs- A New Dictionary of Physics, London 1975.
Precondition for testing:	
Physics I	

Subject content:

Acoustical sources, Acoustic waves, Sound velocity. Sound application in measuring technics. Properties of ultrasound wave. Application of ultrasound in technological processes.

Development of common and specific competences:

This program gives the basis required for following other engineering courses.

	Course:	Aesthetics
Teacher in charge: Galović Milan	***Course summary:*** ***ECTS:*** ***Course type:*** ***Course is preformed:*** *Name of study:* *Module:* *Study:* *Term:*	3 (2+0+1) 4 optional TOOT DO

Lecture type:	***Literature necessary for course:***
lectures seminars	Aristotel, POETIKA, GZH,Zagreb, 1989. Pejović, D. (prir.), NOVA FILOZOFIJA UMJETNOSTI,Matica Hrvatska, Zagreb,1972. Galović,M., LJEPOTA KAO SJAJ ISTINE, Demetra, Zagreb, 2003.

Exercise type:	Barbarić, D. (prir.), ZAGONETKA UMJETNOSTI, Demetra, Zagreb, 2003. Jencks, ch., (ur.), VIZUALNA KULTURA, Jesenski i Turk, 2002.
audio practice seminar	

Knowledge verification:	***Supplement literature:***
oral exam	Calinescu, M., LICA MODERNITETA: AVANGARDA, DEKADENCIJA, KIČ, Stvarnost, Zagreb, 1977. Read, H., SLIKA I MISAO, Mladost, Zagreb, 1965.

Precondition for testing:	Damjanov, J., VIZUALNI JEZIK I LIKOVNA UMJETNOST, Školska knjiga, Zagreb, 1991. Benjamin, W., ESTETIČKI OGLEDI, Školska knjiga, Zagreb, 1986.
Lectures, literature, seminar paper	

Subject content:

The term Aesthetics (historical origin, definition, types of aesthetics, modern aesthetics); beautiful, ugly, exalted, kitsch; Aesthetic canons, their history and changes today; Aesthetic aproach (aesthetic perception, ideas, expression); History of art, styles, artistically beautiful, modern and contemporary art, beauty as a term. Artistical imitation, presentation, creation.Theory of spiritual production (intuition, fantasy, expression…); Aesthetic of human figure; Art and design; Fashion design; Aesthetic of fashion; Art, design, technologies, media, multimedial projects, instalations, performances; Aesthetics and postmodernism; Picture and simulacrum; End of aesthetics.

Development of common and specific competences:

Knowledge of aesthetics , aesthetic theories and canons are necessary for an artist as well as for a designer. Aesthetic theories and the term of beauty date from Greek philosophers, over modern aestheticists to contemporary aesthetic theories. The creative fashion design gets the possibility to get acquainted with art and artistic beauty through historic articulation of aesthetic problems. Special objectiv of this course is to study the relation between art and modern design, to examine the aesthetic of human figure, clothing and fashion. A fashion designer is given the possibility to develop his artistic thinking, to discuss feshion design and explain his own creations.

	Course:	Analytical Chemistry
Teacher in charge:	***Course summary:***	3 (1+2+0)
Bokić Ljerka	***ECTS:***	4
	Course type:	mandatory basis
	Course is preformed:	
	Name of study:	TOOT
	Module:	TTK
	Study:	pregraduation
	Term:	4th term

Lecture type:	***Literature necessary for course:***
lectures practice	1. Š.Cerjan-Stefanović: Osnove analitičke kemije, Sveučilišna naklada Liber, Zagreb, 1985. 2. M.Kaštelan-Macan: Analitička kemija I, Sveučilišna naklada Liber, Zagreb, 1985.
Exercise type:	3. Z.Šoljić, M.Kaštelan-Macan: Analitička kemija: volumetrija, Fakultet kemijskog inženjerstva i tehnologije:HINUS, Zagreb, 2002. 4. D.A.Skoog, D.M.West, I.J.Holler, Osnove analitičke kemije, Školska knjiga, Zagreb, 1999.
laboratory practice	

Knowledge verification:	***Supplement literature:***
preliminary exam writing exam oral exam	1. Z.Šoljić, Kvalitativna kemijska analiza anorganskih tvari, Fakultet kemijskog inženjerstva i tehnologije:HINUS, Zagreb, 2003. 2. I Eškinja, Vježbe iz kvantitativne kemijske analize, Sveučilišna naklada Liber, Zagreb, 1986.
Precondition for testing:	3. Z.Šoljić, Računanje u analitičkoj kemiji, Sveučilišna tiskara d.o.o, Zagreb, 1998. 4. Lj.Bokić, B.Vojnović, Interna skripta za vježbe iz analitičke kemije
General chemistry exam	

Subject content:

Analytical principle, analytical method, analytical procedure. Classification and application of analytical methods. Sampling. Sample preparation. Decomposition methods. Separation of matrix components. Preparation of textile materials and textile wastewaters for analysis. Sources of errors. Detection methods. Equilibrium in identification and separation of analite. Classical wet-chemical methods (gravimetry, volumetry). Analytical procedures in qualitative and quantitative analysis of inorganic materials in textile samples. Some instrumentation methods and techniques. Application of potentiometric (ion-selective electrodes), conductometric and colorimetric methods in textile industry.

Development of common and specific competences:

The students will gain a basic principles of analytical chemistry and getting basic experience for work in textile analytical laboratory praxis by means of classic wet and some rutine analytical methods.

	Course:	Anatomy
Teacher in charge:	***Course summary:***	2 (1+1+0)
Keros Predrag	***ECTS:***	2
	Course type:	mandatory tight discipline
	Course is preformed:	
	Name of study:	TOOT
	Module:	OBT
	Study:	
	Term:	2nd term

Lecture type:	***Literature necessary for course:***
lectures practice	Ruszkowski, I., P. Keros, T. Žiger: Plosnato stopalo-Pes planus. Medicinski fakultet, Zagreb 1994. Keros, P., M. Pećina, M. Ivančić-Košuta: Temelji anatomije čovjeka. Naprijed, Zagreb 1999.
Exercise type:	
seminars	

Knowledge verification:	***Supplement literature:***
preliminary exam writing exam oral exam	Krmpotić Nemanić J. Anatomija čovjeka. JUMENA, Zagreb 1990 Leonhard H, Kahle W, Platzer W. Priručni anatomski atlas. Medicinska naklada, Zagreb 2004.
Precondition for testing:	
Finished laboratory practice	

Subject content:

Introduction to anatomy. General structure of bones, joints and muscule. Sceleton and muscles of head and trunk. Spine. Pelvic and femoral sceleton and muscles. Muscles of tigh and foot. Statics and dinamics of the foot. Biomechanics of the human gait. Heart, blood and lymphatic vessels. Blood vessels and nerves of the leg. Central nervous system and senses. Peripheral nervous system. Respiratory system and endocrinal glands. Digestive system. Urogenital system.

Development of common and specific competences:

Aim of collegium main purpose is gathering the knowledge of the human anatomy, especially the locomotoral system important for the load and function of the legs and feet. Students learn how to recognize tigh and foot bones on the radiograms, then kinesiologic functions of the muscles groups of the tigh and foot. The statics and dynamics of the foot and biomechanics of the human gait are emphasized. All these is followed by basic knowledge about nerve regulation and blood supply of thigh and foot.

	Course:	Anatomy
Teacher in charge: Keros Predrag	***Course summary:*** ***ECTS:*** ***Course type:*** ***Course is preformed:*** *Name of study:* *Module:* *Study:* *Term:*	2 (1+1+0) 2 mandatory tight discipline TOOT DO 2nd term
Lecture type: lectures practice	***Literature necessary for course:*** Ruszkowski, I., P. Keros, T. Žiger: Plosnato stopalo-Pes planus. Medicinski fakultet, Zagreb 1994. Keros, P., M. Pećina, M. Ivančić-Košuta: Temelji anatomije čovjeka. Naprijed, Zagreb 1999.	
Exercise type: seminars		
Knowledge verification: preliminary exam writing exam oral exam	***Supplement literature:*** Krmpotić Nemanić J. Anatomija čovjeka. JUMENA, Zagreb 1990 Leonhard H, Kahle W, Platzer W. Priručni anatomski atlas. Medicinska naklada, Zagreb 2004.	
Precondition for testing: Finished laboratory practice		

Subject content:

Introduction to anatomy. General structure of bones, joints and muscules. Sceleton and muscles of head and trunk. Spine. Pelvic and femoral sceleton and muscles. Muscles of tigh and foot. Statics and dinamics of the foot. Biomechanics of the human gait. Heart, blood and lymphatic vessels. Blood vessels and nerves of the leg. Central nervous system and senses. Peripheral nervous system. Respiratory system and endocrinal glands. Digestive system. Urogenital system.

Development of common and specific competences:

Aim of collegium and its main purpose is gathering the knowledge of the human anatomy, especially the locomotoral system important for the load and function of the legs and feet. Students learn how to recognize tigh and foot bones on the radiograms, then kinesiologic functions of the muscles groups of the tigh and foot. The statics and dynamics of the foot and biomechanics of the human gait are emphasized. All this is followed by basic knowledge about nerve regulation and blood supply of thigh and foot.

	Course:	Anthropometry and Sizes in Footwear Manufacturing
Teacher in charge: Ujević Darko	***Course summary:*** ***ECTS:*** ***Course type:*** ***Course is preformed:*** *Name of study:* *Module:* *Study:* *Term:*	3 (1+2+0) 3 mandatory basic TOOT DO 6th term
Lecture type: lectures practice	***Literature necessary for course:*** D.Ujević i sur.: Hrvatski antropometrijski sustav Podloga za nove hrvatske norme veličina odjeće i obuće, znanstveno-sstručna knjiga, Tekstilno-tehnološki fakultet, Zagreb, 2006. Časopis Tekstil, vidi br. 10/2006.	
Exercise type: audio practice		
Knowledge verification: oral exam Writing exam	***Supplement literature:***	
Precondition for testing:		
Subject content: Generally about anthropometry and anthropometrical measurings. Anthropometrical measurings in Europe and the world. ISO and EN. Measuring procedures. Clasical method and the method using 3D scanner. Footwear sizes. Proposal for the new Croatian norm of footwear sizes.		
Development of common and specific competences:		

	Course:	Artistic and Graphic Composition
Teacher in charge:	***Course summary:***	3 (1+2+0)
Mencl Bajs Zlatka	***ECTS:***	4
	Course type:	mandatory
	Course is preformed:	
	Name of study:	TOOT
	Module:	DO
	Study:	
	Term:	3rd term

Lecture type:	***Literature necessary for course:***
lectures Practice	Girotti, eugenia, Footwear: Fifty Years History: 1945-1995, Milan 1995. Mazza, Samuele, Fashion Footwear 1800-1970, Atglen, 2000

Exercise type:	
audio practice	

Knowledge verification:	***Supplement literature:***
preliminary exam	Swann, June, Shoes: The Costume Accessories Series, London 1982 Jahn Peacoc: Shoes, The Complete Sourcebook, Thames & Hudson Ltd, London, 2005 ISBN-13: 978-0-50052212-8

Precondition for testing:	
Album of artistic and graphic composition	

Subject content:

Artistic analysis of footwear, artistic presentation of footwear graphic composition and equipment accoriding to sex, climate, age, usage etc.

Development of common and specific competences:

Ability for visual and graphic presentation of footwear and accessories.

	Course:	Automation in Footwear Production
Teacher in charge: Nikolić Gojko	***Course summary:*** ***ECTS:*** ***Course type:*** ***Course is preformed:*** *Name of study:* *Module:* *Study:* *Term:*	4 (2+2+0) 6 mandatory tight discipline TOOT OBT, DO 4th term
Lecture type: lectures practice	***Literature necessary for course:*** Nikolić G.: Osnove automatizacije strojeva za proizvodnju odjeće, TTF-Zrinski, Čakovec, 2001 Majdančić, N.: Uravljanje proizvodnjom, ISOT, Zagreb, 1988	
Exercise type: audio practice laboratory practice	Nikolić, G.: Pneumatika (III izdanje), Školske novine, Zageb, 2002 Nikolić, G., Novaković, J.: Hidraulika (IV izdanje), Školske novine, Zagreb, 2003 Šurina, T., Crneković, M.: Industrijski roboti, Školska knjiga, Zagreb, 1990	
Knowledge verification: writing exam oral exam	***Supplement literature:***	
Precondition for testing:		

Subject content:

Fundamentals of automation. Control and regulation. Algebra of logic and minimization. Pneumatic and electro-pneumatic elements and their control systems, sensors. Cotrol by PLC. Hydraulc systems.Robots and manipulators. Organization and computer-controlled production.

Development of common and specific competences:

Knowledge of the process of machine automation and production lines in the shoemaking technology. Possible definition of requirements for the automatization of machine or machine parts.Possibility of programming and reprogramming a simple control device according to the requirement of the technological procedure.

	Course:	Auxiliaries in Textile Finishing
Teacher in charge:	***Course summary:***	3 (1+2+0)
	ECTS:	3
Grancarić Ana-Marija	***Course type:***	optional tight discipline
	Course is preformed:	
	Name of study:	TOOT
	Module:	TTK
	Study:	
	Term:	3rd term

Lecture type:	***Literature necessary for course:***
lectures	P.Carty, M.S.Byrne, The Chemical and Mechanical Finishing of Textile materials, Unique Business Service Ltd., Newcastle upon Tyne, 1993, UK John Shore, Colorants and Auxiliaries, Vol. 2, Auxiliaries, SDC, Bradford, 1990, UK
Exercise type:	
laboratory practice	

Knowledge verification:	***Supplement literature:***
preliminary exam oral exam	Producer's prospectus

Precondition for testing:	
Finishing laboratory practice	

Subject content:

Chemical base of surfactants, anionic, cationic, amphoteric and nonionic. Auxiliaries in bleaching and optical bleching. Compounds and agents for textile modification. UV adsorbers. Compounds for antistatic and antimicrobal finishing. Resins for easy care finishing, water and oil repellency. Flame retardant compounds and resins. Polymers for coating of textiles.

Development of common and specific competences:

The large knowledge about chemistry and application of textile auxiliaries enables the students for better understanding of finishing processes and effects especially for approving the finishing processes in the view of ecology.

	Course:	Basics of Accountancy
Teacher in charge:	***Course summary:***	4 (2+2+0)
	ECTS:	5
	Course type:	optional basis
	Course is preformed:	
Tadijančević Stjepan	*Name of study:*	TOOT
	Module:	OT
	Study:	
	Term:	5th term

Lecture type:	***Literature necessary for course:***
lectures practice	Grupa autora: Računovodstvo, HZRIFD, Zagreb, 2004.

Exercise type:	
audio practice	

Knowledge verification:	***Supplement literature:***
writing exam oral exam	Žagar K, V. Vašiček, L. Žager: Računovodstvo za neračunovođe, HZRIFD, Zagreb, 2004.

Precondition for testing:	

Subject content:

Development of common and specific competences:

Introducing of accountancy, aims and tasks of accountancy, structure of accountancy, sortes of accountancy, basic knowledge of accounting categories, Accounting process, bookkeeping account and account project. Double bookkeeping systems, accounting documents, buisness books, inventures, institutional framework of accountancy in Croatia, financial reports, bilance, benefite and loss account, capital changes report, accounting politics. Accountig informations.

	Course:	Basics of Clothing Production
Teacher in charge:	***Course summary:***	3(2+1+0)
Koren Tomislav	***ECTS:***	3
	Course type:	mandatory basis
	Course is preformed:	
	Name of study:	TOOT
	Module:	TTM, TTK
	Study:	
	Term:	4th term

Lecture type:	***Literature necessary for course:***
lectures practice	Knez B.: Tehnolške operacije proizvodnje odjeće, udžbenik Sveučilišta u Zagrebu, Zagreb, 1993.

Exercise type:	
audio practice	

Knowledge verification:	***Supplement literature:***
preliminary exam	Rogale D. i sur.: Tehnologija proizvodnje odjeće sa studijem rada, Mašinski fakultet Univerziteta u Bihaću, 1999.

Precondition for testing:	

Subject content:

Cloth production classification, HRN and ISO standards in cloth production. Clothing number systems. Cut constructiong and grading, cutting pattern, determining of material consumption. Technological operation plans, assembly plans, technological processes plans, working place lay out systems. Measurement and calculation of production run-time, types of standards, efficiency improvement, determination of production capacity, production planning and monitoring. Cutting layer spreading, cutting layer cutting, cutting machinery. Frontal fixation methods and machinery. Sewing stitch types and seam types. Sewing machines. Cutting parts ironing in sewing process. Final ironing methods and aparatus.

Development of common and specific competences:

Introducing into technical preparation and technological processes principes of clothing. Relize applications of textile mechanics and textile chemistry processes on tehnological processes of cloth production.

	Course:	Basics of Design
Teacher in charge:	***Course summary:***	2 (2+0+0)
Cvitan Černelić, Mirna	***ECTS:***	2
	Course type:	mandatory basis
	Course is preformed:	
Simončič Nina Katarina	*Name of study:*	TOOT
	Module:	TTM, TTK, OBT
	Study:	
	Term:	3rd term

Lecture type:	***Literature necessary for course:***
lectures	Jadranka Damjanov: Vizualni jezik i likovna umjetnost, Š.k. Knjiga, Zagreb, 1991. Jocelyn de Noblet: Dizajn, Golden marketing, Zagreb, 1999.

Exercise type:	

Knowledge verification:	***Supplement literature:***
preliminary exam	

Precondition for testing:	

Subject content:

a) Getting familiar with basic elements of visual expression: line, form, texture, color; their relationships: composition, proportion, scale. Regularity, characteristics and effects that com from these relationships. Integration of elements into all classes of visual expression, with focus on textile and clothing analysis. b.) Definition of design, beginnings and development of design, importance role of designer in life,textiles and clothes.

Development of common and specific competences:

Creating awareness about design as an expression of our time which combines almost all areas of human activity as well as of its meaning in the morphogenesis of the entire human environment. The course also enables critical thought of visual environment to evolve and criteria for aesthetic evaluation of its segments to be set. Students are preparing for labour with designers in production.

	Course:	Basics of Footwear Design
Teacher in charge:	***Course summary:***	6 (2+4+0)
	ECTS:	6
Režek Wilson Nina	***Course type:***	mandatory
	Course is preformed:	
	Name of study:	TOOT
	Module:	DO
	Study:	
	Term:	1st term

Lecture type:	***Literature necessary for course:***
lectures	Danielle Garante:Osnove industrijskog dizajna Jasenka Mirenić-Bačić, Marcel Bačić: Uvod u likovno mišljenje

Exercise type:	
art practice	

Knowledge verification:	***Supplement literature:***
exam	Peić – Uvod u likovne umjetnosti

Precondition for testing:	
Album of drawings	

Subject content:

-short history of clothing and footwear forms as the result of the spirit of the times, technique, technology of making materials (style and fashion)
-moment when the need for design emerged
-what is design – the constituent factors of design
-the importace of the analaysis of design factors
-synthesis and who realizes it – designer's knowledge, competence and skill – analysis and getting acquainted with the aesthetic factor
-visual elements of the object's appearance and composition principles
-footwear as an independent form but always compositionally bound to a dressed person as a whole

Development of common and specific competences:

The course develops the awareness of creating a product's form in complex conditions of manufacturing and market:
-it enables the students to recognize the role of a designer who creates a form balancing all factors and requirements to accomplish an object
-it increases the awareness of the significance of the form as the goal which needs all factors to be reached
-through theory and practice it brings the awareness of the laws of order in a work of art.

	Course:	Basics of Leather Processing
Teacher in charge: Akalović Jadranka	***Course summary:*** ***ECTS:*** ***Course type:*** ***Course is preformed:*** *Name of study:* *Module:* *Study:* *Term:*	3 (2 + 1 + 0) 4 mandatory tight discipline TOOT DO 2nd term
Lecture type: lectures practice	***Literature necessary for course:*** Thorstensen T. C.: Practical Leather Technology, Krieger Publ. Co.,Malabar, 1993. K. Bienkiewicz: Physical Chemistry of Leather making,Krieger Publ. Co., Malabar, 1983.	
Exercise type: laboratory practice	H. Grgurić, T. Vuković, Ž.Bajza: Tehnologija kože i krzna, Zagreb, 1985. Z. Radanović: Poznavanje kožarskih materijala i njihovo ispitivanje, Zagreb, 1989. E. Heidemann: Fundamentals of Leather Manufacturing, E. Roether KG, Darmstadt, 1993.	
Knowledge verification: preliminary exam writing exam oral exam	***Supplement literature:*** I. Filipović, S. Lipanović: Opća i anorganska kemija, ŠK, Zagreb, 1995.. S. H. Pine: Organska kemija,ŠK, Zagreb, 1994.	
Precondition for testing: passed practice		

Subject content:

Physical chemistry of collagen. Chemical constitution of collagen and hierarchical structure of biomaterials. Preparation of leather material for processing.Principles of preparation, leather and fell tanning. Equipment for processes in leather production. Theory of neutralisation, dyeing and greasing. Tanning difusion in leather. Theory of tanning binding to collagen.Factors influencing tanning binding, practical tanning.Faults and tanning control. Kinds of tannings.Physico-chemical and mechanical finishing operations.Finished leathers, kinds and properties. Ecology, waste treatment, waste waters and their treatment.

Development of common and specific competences:

Introducing of raw materials, materials and operations, tools, machines and devices.Testing of raw materials, materials, operations and devices. Leather production ecology. Introducing of finished leathers, kinds and properties.

	Course:	Basics of Mechanical Engineering
Teacher in charge: Mijović Budimir	***Course summary:*** ***ECTS:*** ***Course type:*** ***Course is preformed:*** *Name of study:* *Module:* *Study:* *Term:*	4 (2 + 2 + 0) 5 mandatory commonly educational TOOT TTM, TTK, OT, OBT 2nd term
Lecture type: lectures	***Literature necessary for course:*** Budimir Mijovic, Introduction of Mechanical Ehgineering, Faculty of Textile Technology, University of Zagreb	
Exercise type: audio practice		
Knowledge verification: writing exam oral exam	***Supplement literature:***	
Precondition for testing:		

Subject content:

Basic terms of machine elements, strength of machine elements, tensile stress, pressure stress, shear stress, torsion stress, bending stress, dynamic loads, dimensioning of machine elements (accurate and cost-effective), verification of the strength of machine elements, verification of the stability of machine elements, adhesive joints, soldered joints, welded joints, riveted joints, screw fastening, wedges and shafts, springs, axles, pivots, couplings, brakes, roller bearings, sliding bearing, gearing, chain transmission, belt transmission, rope transmission, pipe lines, gaskets, locking devices.

Development of common and specific competences:

Acquiring basic contents of machine elements. Solving simple problems from the field of machine elements. Two-dimensional modelling of elements (2D), three-dimensional modelling of elements (3D), Auto CAD, databases of 2D and 3D elements.

	Course:	Basics of Textile Finishing
Teacher in charge: Hainš Nada	***Course summary:*** ***ECTS:*** ***Course type:*** ***Course is preformed:*** *Name of study:* *Module:* *Study:* *Term:*	3(2+1+0) 3 mandatory tight discipline TOOT TTM, OT 4th term
Lecture type: lectures practice	***Literature necessary for course:*** Soljačić I., D. Katović, A.M. Grancarić:Osnove oplemenjivanja tekstila, Kjinga I, Sveučilište u Zagrebu, Zagreb 1992. Grancarić A.G., Soljačić I., D. Katović:Osnove oplemenjivanja tekstila, Kjinga II, Sveučilište u Zagrebu, Zagreb 1994.	
Exercise type: laboratory practice workshops	Soljačić I., A.M. Grancarić:Vježbe iz procesa tekstilne dorade, Sveučilište u Zagrebu, Liber, Zagreb 1989.	
Knowledge verification: preliminary exam	***Supplement literature:*** Peter M., H.K. Routte, Grundlagen der Textilveredlung, Deutcher Fachverlag GmbH, Frankfurt 1989. Leksikon für Textilveredlung, Laumann-Verlag Dülmen 1995.	
Precondition for testing: Complited practice.	Articles in Textile reviws	

Subject content:

Purpose of textile finishing. Material audit and preparation for plant. Steeping, surface active agents. Processes, devices, basic elements in dry finishing. Cotton prefinishing. Dyeing fundumentals, light, color and dye. Dyeing procedures. Classic and special finishing. Wool finishing. Regenerated fibres and syntethic material finishing. Textile print.

Development of common and specific competences:

Accomplishing basic knowledge in textile finishing.

	Course:	Basics of Textile Production
Teacher in charge: Strmečki Valent	***Course summary:*** ***ECTS:*** ***Course type:*** ***Course is preformed:*** *Name of study:* *Module:* *Study:* *Term:*	3(2+1+0) 3 mandatory basis TOOT OT, TTK 4th term
Lecture type: lectures practice	***Literature necessary for course:*** Prus A.: Tehnologija predenja pamuka, Savez inženjera i tehničara tekstilaca Hrvatske, Zagreb, 1992. Kovačević S.: Priprema pređe, Tekstilno-tehnološki fakultet, Zagreb, 2002.	
Exercise type: workshops	Kovačević S., Dimitrovski K., Hađina J.: Procesi tkanja (udžbenik u tisku), Tekstilno-tehnološki fakultet, Zagreb. Höfer D.: Netkani tekstil, Savez inženjera i tehničara tekstilaca Hrvatske, Zagreb, 1997. Raz S.: Flat Knitting, The New Generation, Heisenbach, Bambrg 199.	
Knowledge verification: preliminary exam	***Supplement literature:*** Strickerei und Wirkerei, Textil Srevice Verlags GmbH, Frankfurt am Mein. www.gesamttextil.de	
Precondition for testing: Passed exam from Textile fibres I, Textile fabrics	www.gore-tex.com www.lascaux.ch	

Subject content:

Linear textile products: Sorts, properties and conviniance of fibres for spinning. Carded and combed yarn production technology, their properties and usage. New spinning systems. Purpose of fibre blending, blending price, spinning capability, fibre substance yield in yarn, randmant, plying, texturing. Plain fabrics: Yarn preparation for weaving. Weaving. Basic weaves and their derivations. Jersey and warp knitting. Knitting machine gauge. Basic knits. Non-woven and technical fabrics, web forming, web bonding. Haberdashery production. Floorcoverings. Workshop practice: Introducing of technological processes of: spinning, yarn preparation for weaving, weaving, knitting, non-woven fabric, haberdashery. Technical solutions of pattering.

Development of common and specific competences:

Student is introduced into technological production processes of linear and plain textile fabrics. He gets better inside and knowledge about possibilities of producing fabrics of various properties and appearance.

	Course:	Biomechanics
Teacher in charge:	***Course summary:***	3 (1 + 2 + 0)
Mijović Budimir	***ECTS:***	4
	Course type:	mandatory tight discipline
	Course is preformed:	
	Name of study:	TOOT
	Module:	OBT
	Study:	
	Term:	3rd term

Lecture type:	***Literature necessary for course:***
lectures	V.Nikolić: Biomehanika, Školska knjiga, Zagreb 1993. B.Nigg: Biomechanics of running shoe, Human Kinetics, New York 1986. SIMM (Software for Interactive Musculoskeletal Modelling), MusculoGraphics, Inc., 1988.

Exercise type:	
audio practice	

Knowledge verification:	***Supplement literature:***
writing exam oral exam	

Precondition for testing:	

Subject content:

Introduction in biomecanich, 3D visualization of foot geometry, shoemaking and human activity, statical anthropometry, dynamical anthropometry, Biomechanical quantificators (force, moment, strenght). Biomechanical model of the foot, strenght and permeability, shock and vibration, safety engeneering design criteria of shoe.

Development of common and specific competences:

Acquiring basic contents of foot. Solving simple problems from the field in biomechanics. Two-dimensional modelling of human body (2D), three-dimensional modelling of human body (3D), Auto CAD, databases of 2D and 3D foot elements.

	Course:	Biomechanics
Teacher in charge:	***Course summary:***	4 (2 + 0 + 2)
Mijović Budimir	***ECTS:***	4
	Course type:	mandatory tight discipline
	Course is preformed:	
	Name of study:	TOOT
	Module:	DO
	Study:	
	Term:	2nd term

Lecture type:	***Literature necessary for course:***
lectures	V.Nikolić: Biomehanika, Školska knjiga, Zagreb 1993. B.Nigg: Biomechanics of running shoe, Human Kinetics, New York 1986. SIMM (Software for Interactive Musculoskeletal Modelling), MusculoGraphics, Inc., 1988.

Exercise type:	
audio practice	

Knowledge verification:	***Supplement literature:***
writing exam oral exam	

Precondition for testing:	

Subject content:

Introduction in biomecanich, 3D visualization of foot geometry, shoemaking and human activity, statical anthropometry, dynamical anthropometry, Biomechanical quantificators (force, moment, strenght). Biomechanical model of the foot, strenght and permeability, shock and vibration, safety engeneering design criteria of shoe.

Development of common and specific competences:

Acquiring basic contents of foot. Solving simple problems from the field in biomechanics. Two-dimensional modelling of human body (2D), three-dimensional modelling of human body (3D), Auto CAD, databases of 2D and 3D foot elements.

	Course:	Cementing Operations and Adhesives
Teacher in charge:	***Course summary:***	4 (2 + 2 + 0)
Akalović Jadranka	***ECTS:***	3
	Course type:	mandatory tight discipline
	Course is preformed:	
	Name of study:	TOOT
	Module:	OBT, DO
	Study:	
	Term:	6th term

Lecture type:	***Literature necessary for course:***
lectures practice seminars	Rimai S. Mittal: Fundamental of Adhesion and Interfaces, VSP, Ultrecht 1995. D. J. Kinloch: Structural Adhesives, Elsevier, Amsterdam 1986.
Exercise type:	K. L. Mittal: Adhesion Measurement of Films and Coatings, Utrecht, 1995.
laboratory practice	

Knowledge verification:	***Supplement literature:***
exam exam	

Precondition for testing:	

Subject content:

Importance of bonding operations in footwear production. Activity of bonding surface.Wetting and hardening. Adhesive forces, elastic and plastic deformations. Development of surface processing techniques. Metodology of bonding testing. Adhesive composition and adhesive properties adjustment.

Development of common and specific competences:

Knowledge in usage and quality testing of adhesives, wetting and hardening, time parametres, parametres of adhesive quality and defining of critical points.

	Course:	Clothes Cutting Technology
Teacher in charge: Koren Tomislav	***Course summary:*** ***ECTS:*** ***Course type:*** ***Course is preformed:*** *Name of study:* *Module:* *Study:* *Term:*	4(2+2+0) 5 mandatory tight discipline TOOT OT 4th term
Lecture type: lectures practice	***Literature necessary for course:*** Knez B.: Tehnooški procesi proizvodnje odjeće, udžbenik Sveučilišta u Zagrebu, Zagreb, 1994. Rogale D. i sur.: Tehnologija proizvodnje odjeće sa studijem rada, Mašinski fakultet Univerziteta u Bihaću, 1999.	
Exercise type: audio practice workshops		
Knowledge verification: writing exam oral exam	***Supplement literature:*** Article selection from home and international professional periodics. Bojanić M.: Matematički modeli i metode u krojenju materijala, Sveučilište u Zagrebu, FOI Varaždin, Varaždin, 1985.	
Precondition for testing: Seminar. Passed exam from Technical preparation of clot production.		

Subject content:

Woven planning for cutting, entry control of material, cutting layers spreading, cutting of layer cuttings. Application of machinery and equipment for cloth cutting. Cloth cutting procedures from velvet and plash wovens, knitting, artificial and natural leather. Cutting process control. Frontal fixation of cloth and methods and aparatus for frontal fixation. Practical handling of cutting machinery. Cutting out of cloth elements and underclothing and clompleting for sewing process.

Development of common and specific competences:

With understanding of technological procedure of cloth cutting content, students aquire for human and rational managing of technological cutting process where durability and safety is insured as well as easy further processing. Product quality is insured. Acquiring knowledge students are prepared for certain plant managing and production lines for cloth cutting. Also, they get basis for further education.

	Course:	Clothing Construction I
Teacher in charge: Koren Tomislav	***Course summary:*** ***ECTS:*** ***Course type:*** ***Course is preformed:*** *Name of study:* *Module:* *Study:* *Term:*	5(2+3+0) 7 mandatory tight discipline TOOT OT 4th term
Lecture type: lectures practice	***Literature necessary for course:*** Knez B.: Konstrukcijska priprema u odjevnoj industriji, udžbenik Sveučilišta u Zagrebu, Zagreb, 1994. Ujević D.; Rogale D.; Hrastinski M.:Tehnike konstruiranja i modeliranja odjeće, Tekstilno tehnološki fakultet, Zagreb, 1999.	
Exercise type: audio practice		
Knowledge verification: writing exam oral exam	***Supplement literature:*** Article selection from home and international professional periodics. Hrastinski M.: Gradiranje i računalna kostrukcija odjeće, Društvo za unapređivanje odgoja i obrazovanja, Zagreb 2000.	
Precondition for testing: seminar	www.gesamttextil.de	

Subject content:

Proportion analysis and bodily measures of woman body. System analysis of clothing number for woman, comparation to international systems. Construction measures calculation. Construction of clothing cut for representative clothing numbers for woman woven and knitted garments as well as woman upper cloths. Basic cut grading for woman cloths. Cutting patterns performance methods for woman upper cloths. Methods of determining of cutting elements and cutting pattern surface.

Development of common and specific competences:

Introducing with body proportion using anthropometry and application on cloth construction. Creation of new cuts using methods of modification and multiplecation. Determining of material lost trough programming taking account about racionalisation. Acquiring knowledge of this program students are prepared for professional cloth construction and grading as well as possible education extension.

	Course:	Clothing Construction II
Teacher in charge: Koren Tomislav	***Course summary:*** ***ECTS:*** ***Course type:*** ***Course is preformed:*** *Name of study:* *Module:* *Study:* *Term:*	4(2+2+0) 5 mandatory tight discipline TOOT OT 5th term
Lecture type: lectures practice	***Literature necessary for course:*** Knez B.: Konstrukcijska priprema u odjevnoj industriji, udžbenik Sveučilišta u Zagrebu, Zagreb, 1994. Ujević D.; Rogale D.; Hrastinski M.:Tehnike konstruiranja i modeliranja odjeće, Tekstilno tehnološki fakultet, Zagreb, 1999.	
Exercise type: audio practice		
Knowledge verification: writing exam oral exam	***Supplement literature:*** Article selection from home and international professional periodics. Mueller M. ¸Sohn: Der Zuschnitt fuer Damenschneiderei, Kostueme und Maentel, Deutsche Bekleidungs-Akademie, Muenchen	
Precondition for testing: seminar		

Subject content:

Proportion analysis and bodily measures of man body. System analysis of clothing number for man, comparation to international systems. Construction measures calculation. Construction of clothing cut for representative clothing numbers for man woven and knitted garments as well as man and children upper cloths. Basic cut grading for man cloths. Cutting pattern structure. Cutting patterns creation methods for man upper cloths. Methods of determining material consumption based on cutting patterns and theoretical consumption.

Development of common and specific competences:

Introducing with body proportion using anthropometry and application on cloth construction. Creation of new cuts using methods of modification and multiplecation. Determining of material lost trough programming taking account about racionalisation. Acquiring knowledge of this program students are prepared for professional cloth construction and grading as well as possible education extension.

	Course:	Clothes Finishing Technology
Teacher in charge:	***Course summary:***	4(2+2+0)
Koren Tomislav	***ECTS:***	4
	Course type:	mandatory tight discipline
	Course is preformed:	
	Name of study:	TOOT
	Module:	OT
	Study:	
	Term:	6th term

Lecture type:	***Literature necessary for course:***
lectures practice	Knez B.: Tehnooški procesi proizvodnje odjeće, udžbenik Sveučilišta u Zagrebu, Zagreb, 1994. Rogale D. i sur.: Tehnologija proizvodnje odjeće sa studijem rada, Mašinski fakultet Univerziteta u Bihaću, 1999.
Exercise type:	
audio practice workshops	

Knowledge verification:	***Supplement literature:***
writing exam oral exam	Article selection from home and international professional periodics. Blankenburg G.: Buegelfaktoren, Forschungsgemeinschaft Bekleidungsindustrie E. V. Berlin
Precondition for testing:	www.gesamttextil.de
Seminar. Passed exam from Technical preparation of clot production.	

Subject content:

Final ironing parameters. Machines and devices for final cloth ironing. Iron surface coveringes. Ironing programs, iron devices management. Final ironing methods. Special finishing. Economic comparation on new methods and means introducing. Ironing process control. Final control of ready made fabrics. Cloth ironing procedures for velvet and plash wovens, knittings, artificial and nature leather. Plant projecting basics. Technological project performance. Production program. Practical performance of technological ironing procedures of cloth elements and underclothing.

Development of common and specific competences:

With understanding of this program, students aquiring for optimal production usage technique for rational and high quality cloth production. Aquired knowledge is sufficient for furder education and successful managing of plant and production lines for cloth ironing as well as process control and final control. Also, they can furfil requirements of self-contractor in clothing production.

	Course:	Clothes Modelling
Teacher in charge:	***Course summary:***	3(1+2+0)
Koren Tomislav	***ECTS:***	4
	Course type:	mandatory tight discipline
	Course is preformed:	
	Name of study:	TOOT
	Module:	OT
	Study:	
	Term:	5th term

Lecture type:	***Literature necessary for course:***
lectures practice	Knez B.: Konstrukcijska priprema u odjevnoj industriji, udžbenik Sveučilišta u Zagrebu, Zagreb, 1994. Ujević D.; Rogale D.; Hrastinski M.:Tehnike konstruiranja i modeliranja odjeće, Tekstilno tehnološki fakultet, Zagreb, 1999.
Exercise type:	
audio practice	

Knowledge verification:	***Supplement literature:***
writing exam oral exam	Article selection from home and international professional periodics. www.gesamttextil.de
Precondition for testing:	Jansen J.; Ruediger C.: Systemschnitt, Vachverlag Schiele&Schoen, Berlin
Passed exam from Cloth construction I & II	

Subject content:

Construction of selected cutting parts for man and woman upper parts as well as man and woman underclothes. Development of basic cuts into new models with modification procedures.

Development of common and specific competences:

Acquiring complete confidence and independence in cloth cuts construction with development of basic cuts.

	Course:	Colour Basics
Teacher in charge:	***Course summary:***	2(1+1+0)
Dugan Ljerka	***ECTS:***	2
	Course type:	mandatory tight discipline
	Course is preformed:	
	Name of study:	TOOT
	Module:	TTK
	Study:	
	Term:	4th term

Lecture type:	***Literature necessary for course:***
lectures practice	Tanhofer N.:O boji, Sveučilište u Zagrebu, Akademija dramske umjetnosti, Zagreb 2000. Đ. Parac-Ostrman; Osnove o boji i sustavi vrednovanja, TTF Zagreb 2005.

Exercise type:	
laboratory practice	

Knowledge verification:	***Supplement literature:***
preliminary exam	Shash, M.S., R.S.Grandhi: Instrumental Colour Measurments and Computer Aided Coloor Matching for Textiles, Mahajan Book Distributors, India, 1990.

Precondition for testing:	
None	

Subject content:

Colours nature, international CIE-Lab system. Trichromatic theory, colour nominating, colour atributes, Munsell system of colour classification, additive colour synthesis, substrative colour synthesis, colour interconnection, colour systematization, colour composition, theory of basics reciping, Kubelka-Munk equation. Data-color reciping.

Development of common and specific competences:

Introducing to colour mixing system as well as international CIE-Lab system for colour mesurement.

	Course:	Colour Order System
Teacher in charge: Parac-Osterman Đurđica Dugan Ljerka	***Course summary:*** ***ECTS:*** ***Course type:*** ***Course is preformed:*** *Name of study:* *Module:* *Study:* *Term:*	3(2+1+0) 5 optional tight discipline TOOT DO, OBT

Lecture type:	***Literature necessary for course:***
lectures practice	D.Parac-Osterman; Basics of Colour and evaluation systems, TTF, Zagreb 2005. H.S. Shah, R.S.Gandhi; Instrumental Colour Measurements and Computer Aided Colour Matching for Textiles, Mahajon, India 1990.
Exercise type: laboratory practice	J.Herak; Basics of Chemical Physics, SDC, Školska knjiga d.d. Zagreb, 2001

Knowledge verification:	***Supplement literature:***
preliminary exam oral exam	R.McDonald R; Colour Physics for Industry,SDC,Bradford 1997. Wyszecki&Stiles; Color Science, J.Wiley&Sons, New York 2000.

Precondition for testing:	

Subject content:

Colour and light, tristimulus colour values, CIELAB system. Colour-light interaction system. On-line process managing. Datacolor color calibration and reciping.

Development of common and specific competences:

Basics for colour measurement is precise colour evaluation, it`s reproduction and determining differences of similar colour hues. In technological production processes, distribution of ready-made products and creation of fashion collections as well as values of colour differences are being classified as the most important when determining quality of certain product. Instrumental colour measurement is included in all industrial production processes.

	Course:	Communication and Product Presentation
Teacher in charge:	***Course summary:***	3 (1+0+2)
Mencl Bajs Zlatka	***ECTS:***	4
	Course type:	optional
	Course is preformed:	
	Name of study:	TOOT
	Module:	DO
	Study:	
	Term:	

Lecture type:	***Literature necessary for course:***
	Škarić, I. (2000). Temeljci suvremenog govorništva. Impresum Zagreb, Školska knjiga, Zagreb Petar, S. (2005). Recite to jasno i glasno, MEP Consult, Zagreb
Exercise type:	Kesić: Oglašavanje, unapređenje prodaje, Internet, odnosi s javnošću, publicitet, osobna prodaja. Impresum Zagreb: Opinio, Zagreb Tudor, G. (1992) Kompletan pregovarač: umijeće poslovnog pregovaranja, Impresum Zagreb: MEP Consult, Zagreb Barker, A. (2001). Sastanak: učinkovit, ugodan, usješan. Impresum Zagreb:MEP Consult, Zagreb
Knowledge verification:	***Supplement literature:***
preliminary exam	Reardon, K. K. (1989) Interpersonalna komunikacija: gdje se misli susreću, Alineja, Zagreb Robbins, S.P. (2003). Bitni elementi organizacijskog ponašanja, Mate, Zagreb
Precondition for testing:	

Subject content:

COMMUNICATION SKILLS: Models of communication processes. Verbal and nonverbal communication.Communication competence. Listening. Persuading. Giving feed back information. Conflict management.
PUBLIC SPEECH AND PRESENTATION: Success factors of a public speech. Personal and technical preparation of a speaker/presenter.Structuring of speech/presentation form. Content choosing and preparing. Drawing public attention. Types of audience. Efficient verbal and nonverbal behavior of a speaker/presenter. Basics of rhetoric.Processes of information perception and presentation using computer /multimedia.Structure of selling presentation. Market and fashion show presentations.
SALE COMMUNICATION: NEGOTIATION, MEETINGS: business communication in groups.

Development of common and specific competences:

On the basis of lecture attendance and active participation in seminars, following comptences are gained: knowledge of the facts of successful verbal and nonverbal communication, competent behavior in business situations as well as seccessfulness in complex communication activities like presenting, personal sale, negotiation and conducting a meeting. Students are also acquainted with competences connected with real besiness communicative skills like listening and persuading, as well as holding public speeches and presentations.

	Course:	Computer Aided Design of Woven Fabrics
Teacher in charge: Strmečki Valent	***Course summary:*** ***ECTS:*** ***Course type:*** ***Course is preformed:*** *Name of study:* *Module:* *Study:* *Term:*	5(2+3+0) 7 optional tight discipline TOOT TTM 5th term
Lecture type: lectures practice	***Literature necessary for course:*** Orešković V. I J. Hađina: Vezovi i konstrukcije tkanina listovnog tkanja, Bihać S. Adanur: Handbook of Weaving, Technomic Publishing, USA, 2001.	
Exercise type: audio practice workshops		
Knowledge verification: preliminary exam writing exam	***Supplement literature:***	
Precondition for testing: Basic computer skills, knowledge of woven construction.		

Subject content:

Basics of computer designing, computer aided color composition, managing raster programs. Inner corelation between weaves and colors. Validity and calculation of repetative patterns. Weave and weaving raport calculation, woven width, warp and weft density rate. Practical examples of various computer design programs for dobby and jacquard wovens. Test design speciment prints on paper or other adequate media. Comupter aided woven design analysis based on conditions and techonogical characteristics of electronic managing dobby and jacquard looms. Electronic card perforating for mechanical mahines. Work methods and control of electronic managing dobby and jacquard looms.

Development of common and specific competences:

Basics of computer designing, computer aided color composition, managing raster programs. Inner corelation between weaves and colors. Validity and calculation of repetative patterns. Weave and weaving raport calculation, woven width, warp and weft density rate. Practical examples of various computer design programs for dobby and jacquard wovens. Test design speciment prints on paper or other adequate media. Comupter aided woven design analysis based on conditions and techonogical characteristics of electronic managing dobby and jacquard looms. Electronic card perforating for mechanical mahines. Work methods and control of electronic managing dobby and jacquard looms.

	Course:	Computer Aided Footwear Design
Teacher in charge: Tucaković Ljiljana	***Course summary:*** ***ECTS:*** ***Course type:*** ***Course is preformed:*** *Name of study:* *Module:* *Study:* *Term:*	3(1+2+0) 3 mandatory tight discipline TOOT OBT 5th term
Lecture type: lectures practice	***Literature necessary for course:*** T. Vuković, Lj. Tucaković-Mujagić, M. Grgurić, I. Restek: Primjena elektorničkih računala kod proizvodnje obuće, Karlovac,1986. Lj. Tucaković-Mujagić, V. Kovačević: Kreacija i razrada konstrukcije modela obuće CAD/CAM/CIM sistema, Zagreb, 1992.	
Exercise type: audio practice workshops		
Knowledge verification: writing exam oral exam	***Supplement literature:*** Saskia Dunian-Resses: Shuhe, Hirmer Munchen, 1991. Lj. Tucaković-Mujagić, V. Kovačević: Primjena CAD/CAM sistema u mreži sa dislociranim jedinicama, Koža i obuća, 9-10 (1992).	
Precondition for testing: finished workshops practice		

Subject content:

Drowing and computer aided construction of shoe models for men, ladies and children footwear, grading and industrial specification.

Development of common and specific competences:

Student is quolified for skills in drowing designing and developing shoe models by computer, making specifications, correctures and calculations for ekonomical model production in industry.

	Course:	Computer Aided Footwear Design
Teacher in charge:	***Course summary:***	4(1+2+1)
Rogale Dubravko	***ECTS:***	5
	Course type:	mandatory tight discipline
	Course is preformed:	
	Name of study:	TOOT
	Module:	DO
	Study:	
	Term:	4th term

Lecture type:	***Literature necessary for course:***
lectures practice	T. Vuković, Lj. Tucaković-Mujagić, M. Grgurić, I. Restek: Primjena elektorničkih računala kod proizvodnje obuće, Karlovac,1986. Lj. Tucaković-Mujagić, V. Kovačević: Kreacija i razrada konstrukcije modela obuće CAD/CAM/CIM sistema, Zagreb, 1992.
Exercise type:	L.Vass, M. Molnar: Handmade shoes for man, Konnemann, England 2001 Klaudija Muller: The Timeline of World Costume, Thames & Hudson 1993 London
audio practice workshops	

Knowledge verification:	***Supplement literature:***
writing exam oral exam	Saskia Dunian-Resses: Shuhe, Hirmer Munchen, 1991. Lj. Tucaković-Mujagić, V. Kovačević: Primjena CAD/CAM sistema u mreži sa dislociranim jedinicama, Koža i obuća, 9-10 (1992).
Precondition for testing:	
finished workshops practice	

Subject content:

Drowing and computer aided construction of shoe models for men, ladies and children footwear, grading and industrial specification.

Development of common and specific competences:

Student is quolified for skills in drowing designing and developing shoe models by computer, making specifications, correctures and calculations for ekonomical model production in industry.

	Course:	Computer Aided Reciping
Teacher in charge: Parac-Osterman Đurđica Dugan Ljerka	***Course summary:*** ***ECTS:*** ***Course type:*** ***Course is preformed:*** *Name of study:* *Module:* *Study:* *Term:*	3(1+2+0) 3 optional tight discipline TOOT TTK pregraduation 5th term

Lecture type:	***Literature necessary for course:***
lectures practice	D.Parac-Osterman; Basics of Colour and evaluation systems, TTF, Zagreb 2005. H.S. Shah, R.S.Gandhi; Instrumental Colour Measurements and Computer Aided Colour Matching for Textiles, Mahajon, India 1990.
Exercise type: laboratory practice	J.Herak; Basics of Chemical Physics, SDC, Školska knjiga d.d. Zagreb, 2001

Knowledge verification:	***Supplement literature:***
preliminary exam	R.McDonald R; Colour Physics for Industry,SDC,Bradford 1997. Wyszecki&Stiles; Color Science, J.Wiley&Sons, New York 2000.

Precondition for testing:	
None	

Subject content:

Numerical evaluation of colours, standards, light sorces, trisimulus colour values, CIE system. Colour difference according to CIELAB system. ISO standards. Metamerism. Practical use of colour mesurement. Kubelka-Munk theory. Colour calibration for recipe correction.

Development of common and specific competences:

Quick and practical use in colouration identification as well as making a recipe for desired colouration.

	Course:	Computer Clothing Construction
Teacher in charge:	***Course summary:***	4 (2+4+0)
Rogale Dubravko	***ECTS:***	6
	Course type:	mandatory tight discipline
	Course is preformed:	
	Name of study:	TOOT
	Module:	OT
	Study:	
	Term:	6th term

Lecture type:	***Literature necessary for course:***
lectures	D. Rogale, S. Polanović: Računalni sustavi konstrukcijske pripreme u odjevnoj industriji, recenzirani udžbenik Sveučilišta u Zagrebu, odobrenje Povjerenstva za znanstveno-nastavnu literaturu Sveučilišta u Zagrebu broj 02/592/1-1996, od 21. ožujka 1997., Tekstilno-tehnološki fakultet Sveučilišta u Zagrebu, ISBN 953-96183-9-8, UDK 681.3:687(075.8), 188 str. S. Polanović, D. Rogale: Grafičke radne stanice za računalni dizajn tekstila i odjeće u tehničkoj pripremi odjevne industrije, Tekstil, 45,(1996.), 6, 312-319
Exercise type:	D.Rogale, S.Petrak: Inkrementalna metoda automatske računalne konstrukcije krojeva odjeće,Tekstil, 49 (2000), 8;411-419
laboratory practice	S. Bogović, D. Rogale: Symetry of Garment Patterns Using Matrix Transformations, DAAAM, 2000, Opatija, 35-36
	S. Bogović, D. Rogale: Matrične transformacije simetrije pri zrcaljenju krojnih dijelova, Tekstil, 50 (2001), 1; 1-7
Knowledge verification:	***Supplement literature:***
preliminary exam writing exam oral exam	S. Petrak, D. Rogale: Methods of automatic computerised cutting pattern construction, International Journal of Clothing Science and Technology, 13, (2001), 3/4, 228-239 Rogale D., Petrak S. Mandekić-Botteri V.: Method of Transforming 3D Clothing Patterns into 2D Cutting Parts, 2nd International Textile, Clothing & Design Conference – Magic World of Textiles October 03th to 06th 2004, Dubrovnik, Croatia, 586-593
Precondition for testing:	Bogović S., Rogale D.: Modelling Garment Cutting patterns Using Matrix Transformations, 1st International Textile, Clothing & Design Conference – Magic World of Textiles October 06th to 09th 2002, Dubrovnik, Croatia, 341-346 Rogale D., Petrak S. Mandekić-Botteri V.: Method of Transforming 3D Clothing Patterns into 2D Cutting Parts, 2nd International Textile, Clothing & Design Conference – Magic World of Textiles October 03th to 06th 2004, Dubrovnik, Croatia, 586-593
Regularly completed exercises, accepted term-papers and prelminary exam	

Subject content:

Basics of computer graphics. Computer systems for CAD/CAM clothing construction, properties, configurations and input-output units. Preparation for cutting parts for digitizing. Modelling of garments and cutting pattern production by computer. Modelling of cuts using a computer. Construciton of lining and interlining cutting parts using a computer. Methods of special grading types. Methods of grading by matrix transformations, vector modules and vector translations. Integration of cutting part surfaces. Matrix transformations of rotation, symmetry and mirroring. Parameters of computer plotters and systems for automatic cutting. Incremental and automatic methods of computer clothing construction.

Development of common and specific competences:

The student masters the methods of computer clothing design and the operation of the CAD system for computer clothing construction.

	Course:	Computers in Bussines
Teacher in charge:	***Course summary:***	2 (1+1+0)
Grundler Darko	***ECTS:***	3
	Course type:	mandatory basis
	Course is preformed:	
	Name of study:	TOOT
	Module:	OT
	Study:	
	Term:	3rd term

Lecture type:	***Literature necessary for course:***
lectures seminars practice	Vlatko Čerić, Mladen Varga (urednici), Informacijska tehnologija u poslovanju, Element, Zagreb, 2004. Panian, Ž. (1999), Poslovna informatika , Informator, Zagreb

Exercise type:	Turban, E., McLean E. i Wetherbe J. (2001), Information Technology for Management – Making Connections for Strategic Advantage, John Wiley & Sons K.C. Laudon, C.G. Traver, E-Commerce: Business, Technology, Society, Second Edition, Addison Wesley, 2003, 944 str.
audio practice laboratory practice workshops seminars	

Knowledge verification:	***Supplement literature:***
preliminary exam	CD ROM: computer in bussines for TTF students (internal edition) D. Jones, M. Scott, R. Villars, E-Commerce for Dummies, For Dummies, 2001, 432 str.

Precondition for testing:	M.J. Cunningham, B2B: How to Build a Profitable E Commerce Strategy, Perseus Books Group, 2002, 224 str.
Sucesfull exam Computing and Applied computing	

Subject content:

Information systems. IS role and function. IS parts and subsystems. IS as business system model. Establishing IS. Office IS. Data organization and control. Files. Databases. Date warehouses. Database management systems. Decision support systems. Decision making and decision makers. Decision system types. Group decision support. Expert systems. Analytical modeling and tabular calculators. Internet and electronic commerce. Electronic commerce. Security of network systems. Modern information technologies. Multimedia. Data visualization and virtual reality. Intelligent agents. Intelligent computing. Virtual organizations.

Development of common and specific competences:

COMMON COMPETENCES: understanding information system structure and operation, understanding importance of data and data manipulation, understanding databases and its application, understanding expert systems and decision support systems, understanding of electronic commerce, understanding information system security.
SPECIFIC COMPETENCES: practical work with databases (Access), practical work with expert systems, practical work with electronic commerce system, application of practical measures to protect information system.

	Course:	Computing
Teacher in charge:	***Course summary:***	5 (2+3+0)
Grundler Darko	***ECTS:***	6
	Course type:	mandatory basic
	Course is preformed:	
	Name of study:	TOOT
	Module:	DO
	Study:	
	Term:	1st term

Lecture type:	***Literature necessary for course:***
lectures seminars practice	Darko Grundler, Kako radi računalo, PRO-MIL, Varaždin, 2004, ISBN 953-7156-06-0, 352 str. Darko Grundler, Primijenjeno računalstvo, (sveučilišni udžbenik), GRAPHIS, Zagreb, ISBN 953-6647-03-6, 2000, 524 str.
Exercise type:	D. Grundler, D. Franulić Šarić i T. Rolich, Primijenjeno računalstvo - izabrani primjeri, GRAPHIS, Zagreb, 2002, 204 str.
audio practice laboratory practice seminars	N. Milijaš, Lj. Milijaš, PC škola - Windows XP, Pro-mil, Varaždin, 2002, 953-7032-84-1, 296 str. Ljiljana Milijaš, PC škola - Office XP, Pro-mil, Varaždin, 2002, 953-98218-6-X, 533 str.
Knowledge verification:	***Supplement literature:***
exam l exam	CD ROM: Computer science for TTF students (internal edition) Zoran Ikica, Toma Gvozdanović, PC - ŠKOLA Internet, e-mail, web, Pro-mil, Varaždin, 80 str.
Precondition for testing:	Dario Sušanj, Brzi vodič kroz osobna računala, SYSPRINT, Zagreb, 2003, ISBN 953-232-019-9, 185. str. Dario Sušanj, PC računala iznutra i izvana, SYSPRINT, Zagreb, 2002, 495 str.

Subject content:

HARDWARE: history of computing, general ideas, basic computer architecture, (CPU, memory, paralell and serial port, bus), input and output devices, mass storage devices, computer conection devices.
SOFTWARE: command and program, machine language, assembler, higher programing languages, compiler, interpreter, operating systems, applications (word processord, graphic and sound processing programs, databases, tabular computing), CAD programs.
INTERNET: CarNet and Internet, main Internet services (E-mail, WWW, ftp, telnet).

Development of common and specific competences:

COMM0N COMPETENCES: knowledge of principle of operation of computers and computer periferals, understanding of mutual operaton of computer system components, understending of practical application and suitability of computer devices and technoligies.
SPECIFIC COMPETENCES: practical use of computer technology: Windows, Word, Excel, PowerPoint, Internet.

	Course:	Computing
Teacher in charge:	***Course summary:***	5 (2+3+0)
Grundler Darko	***ECTS:***	5
	Course type:	mandatory commonly educational
	Course is preformed:	
	Name of study:	TOOT
	Module:	TTM, TTK, OT, OBT
	Study:	
	Term:	1st term

Lecture type:	***Literature necessary for course:***
lectures seminars practice	Darko Grundler, Kako radi računalo, PRO-MIL, Varaždin, 2004, ISBN 953-7156-06-0, 352 str. Darko Grundler, Primijenjeno računalstvo, (sveučilišni udžbenik), GRAPHIS, Zagreb, ISBN 953-6647-03-6, 2000, 524 str.
Exercise type:	D. Grundler, D. Franulić Šarić i T. Rolich, Primijenjeno računalstvo - izabrani primjeri, GRAPHIS, Zagreb, 2002, 204 str.
audio practice laboratory practice seminars	N. Milijaš, Lj. Milijaš, PC škola - Windows XP, Pro-mil, Varaždin, 2002, 953-7032-84-1, 296 str. Ljiljana Milijaš, PC škola - Office XP, Pro-mil, Varaždin, 2002, 953-98218-6-X, 533 str.
Knowledge verification:	***Supplement literature:***
preliminary exam writing exam oral exam	CD ROM: Computer science for TTF students (internal edition) Zoran Ikica, Toma Gvozdanović, PC - ŠKOLA Internet, e-mail, web, Pro-mil, Varaždin, 80 str.
Precondition for testing:	Dario Sušanj, Brzi vodič kroz osobna računala, SYSPRINT, Zagreb, 2003, ISBN 953-232-019-9, 185. str. Dario Sušanj, PC računala iznutra i izvana, SYSPRINT, Zagreb, 2002, 495 str.

Subject content:

HARDWARE: history of computing, general ideas, basic computer architecture, (CPU, memory, paralell and serial port, bus), input and output devices, mass storage devices, computer conection devices.
SOFTWARE: command and program, machine language, assembler, higher programing languages, compiler, interpreter, operating systems, applications (word processord, graphic and sound processing programs, databases, tabular computing), CAD programs.
INTERNET: CarNet and Internet, main Internet services (E-mail, WWW, ftp, telnet).

Development of common and specific competences:

COMM0N COMPETENCES: knowledge of principle of operation of computers and computer periferals, understanding of mutual operaton of computer system components, understending of practical application and suitability of computer devices and technoligies.
SPECIFIC COMPETENCES: practical use of computer technology: Windows, Word, Excel, PowerPoint, Internet.

	Course:	Design of Leather Articles
Teacher in charge:	***Course summary:***	4 (1+3+0)
Vinković Maja	***ECTS:***	5
	Course type:	mandatory
	Course is preformed:	
	Name of study:	TOOT
	Module:	DO
	Study:	
	Term:	3rd term

Lecture type:	***Literature necessary for course:***
lectures practice	Maja Vinković: Likovno projektiranje odjećeI., Tekstilno-tehnološki fakultet Svučilišta u Zagrebu, 1999., Zagreb Matko Peić: Pristup likovnom djelu, Školska knjiga, Zagreb, 1987.
Exercise type:	Marijan Jakubin: Osnove likovnog jezika i likovne tehnike, NIŠRO «Prosvjeta», Zagreb, 1989.
audio practice	

Knowledge verification:	***Supplement literature:***
preliminary exam	Swann, June, Shoes: The Costume Accessories Series, London 1982 John Peacoc: Shoes, The Complete Sourcebook Thames&Hudson Ltd, London, 2005 ISBN-13:978-0-50052212-8
Precondition for testing:	
Album of drawings	

Subject content:

Lectures:getting acquainted with the term of fashion accessories: shoes, handbags, gloves and belts made of leather. Basic terms of project, fashion form, foot and hand.
Practice: drawing men's and women's dresssing shoes, belts, handbags and wallets.
Drawing men's and women's sports and formal footwear and accessories.
Drawing children's footwear.

Development of common and specific competences:

Make students feel the difference between classic, sports and formal style without the influence of fashion guidelines as a basis for authorial collection of footwear and fashion accessories.

	Course:	Detergents
Teacher in charge:	***Course summary:***	3(1+2+0)
Pušić Tanja	***ECTS:***	2
	Course type:	mandatory tight discipline
	Course is preformed:	
	Name of study:	TOOT
	Module:	TTK
	Study:	
	Term:	5th term

Lecture type:	***Literature necessary for course:***
lectures practice	I. Soljačić, T.Pušić: Njega tekstila-I dio, TTF, Zagreb 2005. Jacobi G., Lohr A.: Detergents and Textile washing, Henkel KGaA, Dusseldorf 1987.
Exercise type:	Henkel Referate-actual numbers
laboratory practice	Schultz R.: Titrimetric determination of Surfactants and Pharmaceuticals, Metrohm Ltd., CH-Herisau, 1999.

Knowledge verification:	***Supplement literature:***
oral exam	articles in appointment with teacher

Precondition for testing:	
finished laboratory practice	

Subject content:

Powder detergents. Composition of powder detergent; Liquid detergents; Composition of liquid detergents; Production of and liquid detergents; Compact and supercompact detergents;

Development of common and specific competences:

Introduction in development and application of new detergent formulations.

	Course:	Drawing and Painting
Teacher in charge:	***Course summary:***	4 (1+3+0)
Režek-Wilson Nina	***ECTS:***	4
	Course type:	mandatory
	Course is preformed:	
	Name of study:	TOOT
	Module:	DO
	Study:	
	Term:	1st term

Lecture type:	***Literature necessary for course:***
lectures practice	Monographs about famous painters through history (depending on individual student's interest).

Exercise type:	
workshops	

Knowledge verification:	***Supplement literature:***
Preliminary exam	

Precondition for testing:	
Regular attendance of lectures Album of drawings	

Subject content:

Basic relations between different forms, textures and material qualities. Relation between light and darkness, tonus and colour. Getting acquainted with drawing and painting techniques.

Development of common and specific competences:

Developing of drawing skills, mastering the space perception and all drawing techniques.

	Course:	Ecology in Leather and Footwear Industry
Teacher in charge:	***Course summary:***	3(1+1+1)
	ECTS:	4
	Course type:	mandatory tight discipline
	Course is preformed:	
Došen Šver Dubravka	*Name of study:*	TOOT
	Module:	OBT
	Study:	
	Term:	5th term

Lecture type:	***Literature necessary for course:***
lectures seminars practice	Lehr und Handbuch der Abwasser Technik,Verlag von Wilhelm Ernst & Sohn,1983 Grgurić,H..Vuković,T.Bajza,Ž.:Technology of Leather and Fur,Zagreb, Croatian L.,1985
Exercise type:	Heideman,E.:Fundamentals of Leather Manufacturing,Eduard RoetherKG,Darmstadt,1993.
seminars laboratory practice	Bajza,Ž.,Sipos,L.&Briški,F.:Program for Problem Solvability of Lather Industry Wastewater Purification in Croatia,Koža i obuća,1996

Knowledge verification:	***Supplement literature:***
oral exam writing exam	Proceedings of Wastewaters of Textile and Leather Industry, Poreč, Croatia, 01.-03.IV 1980,51-112 Došen-Šver,D. & Bešenski,S.:Purification of Wastewater of Textile Industry, Tekstil 37,4(1988)193-199

Precondition for testing:
Chemistry

Subject content:

Materials in Leather and Shoes Industry:Leather,Gum,Textile,Plastic Materials(Synthetic Leather, Eco-leather).Ecology in Leather and Shoes Industry:Leather-Collagen,Tanned Leather-Vegetable and Synthetic Tannages,Cromium Salts,Aldehydes.Gum:Natural and Synthetic,Vulcanisation-by Autoclaves,Continuous Vulcanisation,by Pressure.Textile:Agents in Processing and Finishing of Cotton,Wool, Silk,Flax and Synthetic Materials.Plastic Materials:Additives for Net Formation, Separation, Resistance,Thermal Stability,Regulation of Mechanical Properties.Modifiers of Surface and Optical Properties,Biocides,Foamers.Wastewaters in Leather Industry:Impurities,Purification, Maximum Concentration of Toxic Agents.Substitution of Toxic Agents in Processes.

Development of common and specific competences:

Wastewaters of Leather Industry

	Course:	Ecology in Leather and Footwear Industry
Vojnović Branka	***Course type:*** mandatory tight discipline ***Course is preformed:*** *Name of study:* TOOT *Module:* DO *Study:* *Term:* 4th term	
Lecture type:	***Literature necessary for course:***	
lectures	C. Baird, Enviromental Chemistry, W.H. Freeman and Company, 1999 Grgurić,H..Vuković,T.Bajza,Ž.:Technology of Leather and Fur,Zagreb, Croatian L.,1985 Enviromental Chemistry of Dyes and Pigments, Ed. A. Reife and H.S. Freeman, J.Wiley and Sons, 1996	
Exercise type:		
laboratory practice		
Knowledge verification:	***Supplement literature:***	
oral exam	J.W. Moor and E.A. Moore, Enviromental Chemistry, Academic Press, New York, San Francisco, London, 1976 D.G. Crosby, Enviromental Toxicology and Chemistry, Oxford University Press, 1998	
Precondition for testing:	Articles from «Tekstil», «Koža i obuća» and «Tehnička enciklopedija»	
Chemistry		

Subject content:

The origin and the makeup of the Earth, the atmosphere, the hydrosphere, the lithosphere.Biocenosis. Biogeochemical cycles of oxigen, nitrogen, phosphorus, carbon and water.Environmental pollution of atmosphere, soil and awater – greenhouse gases, global warming effect, acid rains, evaporating organic compounds, heavy metals. Footwear industry and the problem of environmental pollution. Characteristics of wastewater in leather industry. Pollutants in leather industry (dyes, heavy metals, pesticides, solid waste). Pollution affecting environment and environmental damages. Chemical analysis (pH, conductivity, hardness, heavy metal ions, anions, alkalinity). Ecological aspects of the chemistry of chromium.Maximum concentration of harmful substances – legal provisions. Cleansing processes of leather industry wastewater (mechanical, chemical and biological). Water charecteristics for leather industry needs. Environmentally safe materials.

Development of common and specific competences:

Environmental pollution and its dangers in the leather industy. Awareness of the necessity for environmentally safe technologies. Students gain basic information about the characteristics of wastewaters of leather Industry, their cleansing and basic knowledge about the practical work in a laboratory for water analysis.

	Course:	Economics
Teacher in charge: Tratnik Miroslav	***Course summary:*** ***ECTS:*** ***Course type:*** ***Course is preformed:*** *Name of study:* *Module:* *Study:* *Term:*	4 (2+0+2) 5 mandatory basis TOOT TTM, TTK, OT, OBT 3rd term
Lecture type: lectures seminars	***Literature necessary for course:*** Ruža, F. i sur.: (2002): Ekonomika poduzeća, uvod u poslovnu ekonomiju, TIVA, Varaždin	
Exercise type: seminars		
Knowledge verification: oral exam	***Supplement literature:*** Ravlić P., i sur. (1995): Ekonomika poduzeća; Ekonomski fakultet Zagreb i Ekonomski fakultet Split Siropolis C. Nicholas: (1995): Menedžment malog poduzeća; IV izdanje, MATE d.o.o. Zagreb	
Precondition for testing: Regular attendance of classes, seminars		

Subject content:

Introduction and definiton of terms of economics . Theory of enterprise and business. Principles of business and business policy. Economic forecasts and planning in the enterprise, financing and business of the company on the market; business control, analysis and business monitoring. Theroy of expenses: definition and types of expenses, positions and holders of expenses. Calculation, principles, types and calculation methods. Calculations of cost prices. Business result of the enterprise and level of business success. Economics of resources, production process end economic function. Investments and elements of assessing the investment project in the textile sector.

Development of common and specific competences:

Acquisition and development of general knowledge of organizaiton and company business as specificities of business of textile companies. Likewise this course will provide basic knowledge of understanding other courses from related branches and the continuation of education.

	Course:	Economics
Teacher in charge: Tratnik Miroslav	***Course summary:*** ***ECTS:*** ***Course type:*** ***Course is preformed:*** *Name of study:* *Module:* *Study:* *Term:*	2 (2+0+0) 3 TOOT DO 1st term
Lecture type: lectures seminars	***Literature necessary for course:*** Ruža, F. i sur.: (2002): Ekonomika poduzeća, uvod u poslovnu ekonomiju, TIVA, Varaždin	
Exercise type: seminars		
Knowledge verification: oral exam	***Supplement literature:*** Ravlić P., i sur. (1995): Ekonomika poduzeća; Ekonomski fakultet Zagreb i Ekonomski fakultet Split Siropolis C. Nicholas: (1995): Menedžment malog poduzeća; IV izdanje, MATE d.o.o. Zagreb	
Precondition for testing: Regular attendance of classes, seminars		

Subject content:

Introduction and definiton of terms of economics . Theory of enterprise and business. Principles of business and business policy. Economic forecasts and planning in the enterprise, financing and business of the company on the market; business control, analysis and business monitoring. Theroy of expenses: definition and types of expenses, positions and holders of expenses. Calculation, principles, types and calculation methods. Calculations of cost prices. Business result of the enterprise and level of business success. Economics of resources, production process end economic function. Investments and elements of assessing the investment project in the textile sector.

Development of common and specific competences:

Acquisition and development of general knowledge of organizaiton and company business as specificities of business of textile companies. Likewise this course will provide basic knowledge of understanding other courses from related branches and the continuation of education.

	Course:	Economics of Enterpreneurship in Textile
Teacher in charge: Tratnik Miroslav	***Course summary:*** ***ECTS:*** ***Course type:*** ***Course is preformed:*** *Name of study:* *Module:* *Study:* *Term:*	3 (2+1+0) 4 optional tight discipline TOOT OT pregraduation 3rd term
Lecture type: lectures seminars practice	***Literature necessary for course:*** Ruža, Franjo; Veselica, Vladimir; Vranešević, Tihomir; Cingula, Marijan; Dvorski, Stjepan (2002): Ekonomika poduzeća: uvod u Deželjin, Jadranka; Deželjin, Josip; Dujmović, Marčelo; Tadin, Hrvoje; Vujić, Vidoje (2002): Poduzetnički management: izazov, rizik	
Exercise type: audio practice	Samuelson, Paul, A.; Nordhaus, William, D. (1999): Ekonomija, XV izdanje, MATE d.o.o, Zagreb	
Knowledge verification: preliminary exam writing exam oral exam	***Supplement literature:*** Siropolis, Nicholas, C., (1995) Menadžment malog poduzeća: vodič u poduzetnštvo, izdanje IV, MATE d.o.o, Zagreb Skupina autora: Interni materijali predavanja, TTF, Zagreb	
Precondition for testing:	Schroeder, Roger, G., (1999): Upravljanje proizvodnjom, odlučivanje u funkciji proizvodnje, MATE, do.o., Zagreb	

Subject content:

1) Introduction into economics of enterpreneurship. 2) Theory of enterprise and division. 3) Characteristics of small-sized enterprises and small-sized companies for the production of textiles and fashion. 4) Definition of enterpreneurs and enterpreneurship. 5) Assumptions of the development of enterpreneurship in Croatia. 6) Enterpreneurial functions. 7) Forms of enterpreneurship. 8) Business risks and enterpreneurship. 9) Creativity, business ideas and plans of enterpreneurship in the fashion and textile sectors. 10) Manager functions in the enterprise. 11) Management of human resources in the fashion and textile sectors. 12) Structure of expenses and attitudes of enterpreneurs in the textile and fashion sectors. 13) Business policy and macroeconomic environment.

Development of common and specific competences:

Students will acquire necessary knowledge of economics of enterpreneurship for the continuaiton of further education. Providing special competences, the course will provide sufficient practical knowledge for personal manager acitivities in the textile and fashion sectors.

	Course:	Electrotechnics and Elektronic
Teacher in charge: Hudec Goran	***Course summary:*** ***ECTS:*** ***Course type:*** ***Course is preformed:*** *Name of study:* *Module:* *Study:* *Term:*	4 (2+2+0) 5 optional basis TOOT TTM, TTK, OT, OBT, DO
Lecture type: lectures practice	***Literature necessary for course:*** Pinter V. (1994.). Osnovi Elektrotehnike, knjiga prva Zagreb: Tehnička knjiga. Pinter V. (1994.). Osnovi Elektrotehnike, knjiga druga Zagreb: Tehnička knjiga	
Exercise type: audio practice laboratory practice	Gold H., Kavran Z., (1999) Elementi i sklopovi TK uređaja (Analogna elektronika) Zagreb, Fakultet prometnih znanosti Gold H., Kavran Z., (1997) Elementi i sklopovi TK uređaja (Digitalna elektronika) Zagreb, Fakultet prometnih znanosti	
Knowledge verification: writing exam oral exam	***Supplement literature:*** Felja I., Koračin D. (1992) Zbirka zadataka i riješenih primjera iz osnova elektrotehnike - 1. dio i 2. dio, Zagreb, Školska knjiga.	
Precondition for testing: preliminary exam on laboratory practice		
Subject content: Physical basics of electricity, electrical field and electrical potential. Capacitance, capacitors. Electrical (dc,ac) current. Resistance and conductivity, Ohms law. Jules low. Magnetic properties of materials. Inductivity. Transformers. Electrical circuits and Kirchoffs law. Impedance and frequency characteristics. Electrical power. Three phase systems. Semiconductors, diodes, transistors. Amplifiers, Digital circuits, Analogue to digital conversion.		
Development of common and specific competences: Students will on informative level understand main topics on electrical engineering and electronics. Beside fundamental information in the field students will be able to understand and follow technological aspects of electrical engineering and electronics implementation in textile technology applications.		

	Course:	English Language I
Teacher in charge: Tabak Jasenka	***Course summary:*** ***ECTS:*** ***Course type:*** ***Course is preformed:*** *Name of study:* *Module:* *Study:* *Term:*	4 (2 + 2+0) 4 mandatory commonly educational TOOT TTM, TTK, OT, OBT, DO 1st term
Lecture type: lectures practice	***Literature necessary for course:*** R. Filipović: An Outline of English Grammar N. Vuljanić: English-Croatian/Croatian-English Dictionary of Textile Technology Terms, Zagreb 1994	
Exercise type: audio practice	Selected and adapted articles on textiles Chosen and adapted articles on different problems of footwear manufacturing.	
Knowledge verification: preliminary exam	***Supplement literature:***	
Precondition for testing:		

Subject content:

Acquiring of the elementary textile terminology. Revision and practicing the basic tenses of the English language. Grammar exercises with active and passive verbal forms.

Development of common and specific competences:

Revision of the tenses gives the students a basis for their future successful translating of technical texts. At the same time they gradually get familiar with the textile teminology.

	Course:	English Language II
Teacher in charge: Tabak Jasenka	***Course summary:*** ***ECTS:*** ***Course type:*** ***Course is preformed:*** *Name of study:* *Module:* *Study:* *Term:*	3 (1 + 2+0) 2 mandatory commonly educational TOOT TTM,TTK, OT, OBT, DO 2nd term
Lecture type: lectures practice	***Literature necessary for course:*** R. Filipović: An Outline of English Grammar N. Vuljanić: English-Croatian/Croatian-English Dictionary of Textile Technology Terms	
Exercise type: audio practice	Selected adapted technical texts	
Knowledge verification: preliminary exam	***Supplement literature:***	
Precondition for testing:		

Subject content:

Compound sentences, especially relative clauses. Constructions with present and past participles. Introduction to the theory of translation and translating of adapted technical texts.

Development of common and specific competences:

Exercises using compound language structures and the ways of their shortening make the students capable of expressing their thoughts concisely and of focussing the information, which is important to form a technical text.

	Course:	English Language III
Teacher in charge: Tabak Jasenka	***Course summary:*** ***ECTS:*** ***Course type:*** ***Course is preformed:*** *Name of study:* *Module:* *Study:* *Term:*	2 (1 + 1+0) 2 mandatory commonly educational TOOT TTM,TTK, OT, OBT, DO 3rd term
Lecture type: lectures practice	***Literature necessary for course:*** R. Filipović: An Outline of English Grammar N. Vuljanić: English-Croatian/Croatian-English Dictionary of Textile Technology Terms	
Exercise type: audio practice	Selection of original articles from textile journals. Authentic articles taken from journals dealing with footwear manufacturing.	
Knowledge verification: preliminary exam	***Supplement literature:***	
Precondition for testing:		

Subject content:

Theory of translation, translation exercises from and into the English language, revising all grammatical structures which appear as translation problems (present and past participles, passive constructions with modal verbs, idioms)

Development of common and specific competences:

Translation exercises encourage the students to read technical texts in English and enable them to use foreign periodicals as the base of their lifelong learning.

	Course:	Ergonomics
Teacher in charge: Mijović Budimir	***Course summary:*** ***ECTS:*** ***Course type:*** ***Course is preformed:*** *Name of study:* *Module:* *Study:* *Term:*	3 (2+1+0) 4 optional TOOT DO
Lecture type: lectures seminars	***Literature necessary for course:*** B. Mijović: Primijenjena ergonomija, Veleučilište u Karlovcu, 2008.	
Exercise type:		
Knowledge verification: preliminary exam	***Supplement literature:***	
Precondition for testing: Seminar paper		
Subject content: Introduction to ergonomics, statistical and dynamical anthropometry of the human body, anthropometrical sizes of leg and foot, surface pressure between leg and foot, dimensions of foot and last, moisture permeability, blows to footwear and vibrations.		
Development of common and specific competences: .		

	Course:	Fashion Theory
Teacher in charge: Paić Žarko	***Course summary:*** ***ECTS:*** ***Course type:*** ***Course is preformed:*** *Name of study:* *Module:* *Study:* *Term:*	3 (2+0+1) 4 mandatory TOOT DO 3rd term
Lecture type: lectures seminar	***Literature necessary for course:*** Mirna Cvitan-Černelić/Ante Tonči Vladislavić/Djurdja Bartlett: MODA: Povijest, sociologija i teorija mode, Školska knjiga, Zagreb, 2002. Milan Galović: MODA: Zastiranje i otkrivanje, Jesenski i Turk, Zagreb, 2001.	
Exercise type: audio practice seminar	Žarko Paić: VRTOGLAVICA U MODI: O vizualnoj semiotici tijela, Altagama, Zagreb, 2007. Jukka grunow: Sociologija ukusa, Jesenski i Turk, Zagreb, 2000.	
Knowledge verification: oral exam	***Supplement literature:*** Tematski broj časopisa za teoriju, kulturu i vizualne umjetnosti TVRĐA, 1-2/2006. (u cijelosti posvećen problematici tijela, mode, vizualne kulture i identiteta) Roland Barthes, THE FASHION SYSTEM, Johnatan Cape, New York, 1985	
Precondition for testing: Seminar paper	Ted Polhemus, STYLE SURFING, Thames& Hudson, London, 1996	
Subject content: History of clothing and dressing; fashion theories (funtional, anthropological, psychoanalytic, social and class theory, studies of culturalism, postmodern theories); fashion as a system of signs; social differentiation and cultural integration; ephemerality of fashion; fashion as ideology; fashion system and its cycles; sculptures and street styles; dress and aesthetic code; life styles; antifashion; fashion and postmodernism.		
Development of common and specific competences: The course schould enable students to gain basic theoretical knowledge of the complex interaction between modern, postmodern and contemporary fashion. Fashion theory combines different social sciences – fashion sociology, fashion anthropology, dressing psychology, semiotics and studies of culturalism – aiming to understand the phenomenon of fashion as the way of representation and construction of new social and cultural identities. Students will be given critical insights into modern theory of fashion as design, life style, aesthetis and social capacity to form the appearance and identity of a modern person.		

	Course:	Fibres I
Teacher in charge:	***Course summary:***	6(3+3+0)
Friščić Vera	***ECTS:***	7
	Course type:	mandatory basis
	Course is preformed:	
	Name of study:	TOOT
	Module:	TTK, TTM, OT
	Study:	
	Term:	1st term

Lecture type:	***Literature necessary for course:***
lectures practice	Friščić V., B. Vuljanić: Kvalitativna analiza vlakana-vježbe, TTF Zgb. 1994. Čunko R., E. Pezelj: Tekstilni materijali, Teh. Veleučilište, Zgb. 2002. Faserstoff-Tabellen (Nach P., A. Koch); Chemical Fibres International, Editorial Department.
Exercise type:	
laboratory practice	

Knowledge verification:	***Supplement literature:***
preliminary exam writing exam oral exam	Čunko R., D. Rafaelli, I. Šmit: Vlakna, Tehnička enciklopedija, sv. 13 (500, 527), LZ Miroslav Krleža, 1997. http://www.fabrick.com http://www.fibersource.com
Precondition for testing:	
Completed and passed practice	

Subject content:

Fibres- definition and systematization. Natural and man made fibres producing. Cellulose and protein, natural and man made fibres. Synthetic fibres, polycondensation, polymerisation and elastomeric fibres. Inorganic fibres (carbon, glass and metal fibres). Bicomponent fibres.

Development of common and specific competences:

Natural and man made fibres identification with accent on properties and usage.

	Course:	Fibres II
Teacher in charge: Friščić Vera	***Course summary:*** ***ECTS:*** ***Course type:*** ***Course is preformed:*** *Name of study:* *Module:* *Study:* *Term:*	6(3+3+0) 7 mandatory basis TOOT TTK 4th term
Lecture type: lectures practice	***Literature necessary for course:*** Rogowin Z.A.: Chemiefasern, Georg Thime Verlag, Stuttgart, New York, 1982. Bobeth W.: Textile Faserstoffe, Verlag, Berlin, Heidelberg, New York, London, 1993.	
Exercise type: laboratory practice		
Knowledge verification: preliminary exam writing exam oral exam	***Supplement literature:*** Friščić V., B. Vuljanić: Kvalitativna analiza vlakana, TTF Zgb., 1994. Mahall K.: Qualitätsbeurteilung von Textilien, Schiele&Schön, Berlin, 1989.	
Precondition for testing: Passed practice from Fibres II and exam from FibresI		

Subject content:

Polymer molecules in textile fibres. Molecular and supramolecular fibres build. Fibre properties: geometrical, physical-mechanical, chemical properties, UV resistance. Electrostaticproperties of fibres. Wearing comforty. Fibres of special properties and usage.

Development of common and specific competences:

Making familiar with specific textile fibres and their usage.

	Course:	Footwear Design
Teacher in charge: Vinković Maja	***Course summary:*** ***ECTS:*** ***Course type:*** ***Course is preformed:*** *Name of study:* *Module:* *Study:* *Term:*	3 (1+2+0) 3 mandatory TOOT DO 5th term
Lecture type: lectures practice	***Literature necessary for course:*** Maja Vinković: Likovno projektiranje odjeće I., Tekstilno-tehnološki fakultet Sveučilišta u Zagrebu, 1999. Zagreb Matko Peić: Pristup likovnom djelu, Školska knjiga, Zagreb, 1987.	
Exercise type: audio practice	Marija Jakubin: Osnove likovnog jezika i likovne tenike, NIŠRO «Prosvjeta», Zagreb, 1989.	
Knowledge verification: preliminary exam	***Supplement literature:*** Swann, June, Shoes: The Costume Accessories Series, London 1982 The Bata Shoe Organization, All About Shoes: Footwear Through the Ages, Toronto 1994.	
Precondition for testing: Album of drawings	John Peacoc: Shoes, The complete Soucebook Thames & Hudson Ltd, London, 2005 ISBN-13: 978-0-50052212-8	
Subject content:		
Lectures: Getting acquainted with the types of footwear according to the origin and design – English, French and Italian footwear. Use of footwear, casual and sports footwear, footwear for formal occasions. Footwear materials, types of leather, types of textiles and knitting. Practice: footwear sketches according to the subject of the lecture, footwear author collection.		
Development of common and specific competences:		
Preparing students for making footwear sketches based upon the knowledge gained in lectures. Footwear variations according to their end use and type.		

	Course:	Footware Modelling and Construction I
Teacher in charge: Tucaković Ljiljana	***Course summary:*** ***ECTS:*** ***Course type:*** ***Course is preformed:*** *Name of study:* *Module:* *Study:* *Term:*	4 (2+2+0) 5 mandatory tight discipline TOOT OBT 3rd term
Lecture type: lectures practice	***Literature necessary for course:*** L. Vass, M. Molnar: Handmade shoes for man, Konnemann, England 2001. Dragutin Prelčec: Modeliranje u industriji obuće I, Zagreb, 1964.	
Exercise type: audio practice workshops	Klaudija Muller: The Timeline of World Costume, Thames& Hudson 1993. London	
Knowledge verification: preliminary exam	***Supplement literature:*** Saskia Dunian-Resses: Shuhe, Hirmer Munchen, 1991.	
Precondition for testing: finished workshops practice		

Subject content:

Basics of industrial footware design caracteristics and foot measuraments, sizing in footware industry, lasting, sole construction drowing and development last profile. Drowing and development of construction bazics tipes mans shoe.

Development of common and specific competences:

Student is quolified for shils in freehanded drowing designing and developing shoe models. Making original drowings and shoe parts.

	Course:	Footwear Modelling and Construction II
Teacher in charge: Tucaković Ljiljana	***Course summary:*** ***ECTS:*** ***Course type:*** ***Course is preformed:*** *Name of study:* *Module:* *Study:* *Term:*	7(3+4+0) 6 mandatory tight discipline TOOT OBT 4th term

Lecture type:	***Literature necessary for course:***
lectures practice	L. Vass, M. Molnar: Handmade shoes for man, Konnemann, England 2001. Dragutin Prelčec: Modeliranje u industriji obuće II, Zagreb, 1964.
Exercise type: audio practice workshops	Klaudija Muller: The Timeline of World Costume, Thames& Hudson 1993. London
Knowledge verification: writing exam oral exam	***Supplement literature:*** Saskia Dunian-Resses: Shuhe, Hirmer Munchen, 1991.
Precondition for testing: finished workshops practice	

Subject content:

Drawing and construction developing of shoe models for ladies and childrens footwear, inside parts, outsoles and various kinds of outsoles, hand and machine grading.

Development of common and specific competences:

Student is qualified for skills in freehanded drowing of designs and developing of shoe models of ladies and childrens shoes. Hand and machine grading.

	Course:	Footware Modelling and Construction I
Teacher in charge:	***Course summary:***	5 (2+3+0)
Ujević Darko	***ECTS:***	6
	Course type:	mandatory tight discipline
	Course is preformed:	
	Name of study:	TOOT
	Module:	DO
	Study:	
	Term:	2nd term

Lecture type:	***Literature necessary for course:***
lectures practice	L. Vass, M. Molnar: Handmade shoes for man, Konnemann, England 2001. Dragutin Prelčec: Modeliranje u industriji obuće I, Zagreb, 1964.
Exercise type:	Klaudija Muller: The Timeline of World Costume, Thames& Hudson 1993. London
audio practice workshops	
Knowledge verification:	***Supplement literature:***
preliminary exam	Saskia Dunian-Resses: Shuhe, Hirmer Munchen, 1991.
Precondition for testing:	
finished practice	

Subject content:

Basics of industrial footware design caracteristics and foot measuraments, sizing in footware industry, lasting, sole construction drowing and development of last profile. Drowing and development of construction of basic models, types of man's shoe.

Development of common and specific competences:

Student is quolified for skils in freehanded drowing, designing and developing shoe models. Making original drowings and shoe parts.

	Course:	Footwear Modelling and Construction II
Teacher in charge:	***Course summary:***	7(3+4+0)
Tucaković Ljiljana	***ECTS:***	6
	Course type:	mandatory tight discipline
	Course is preformed:	
	Name of study:	TOOT
	Module:	OBT
	Study:	
	Term:	4th term

Lecture type:	***Literature necessary for course:***
lectures practice	L. Vass, M. Molnar: Handmade shoes for man, Konnemann, England 2001. Dragutin Prelčec: Modeliranje u industriji obuće II, Zagreb, 1964.
Exercise type:	Klaudija Muller: The Timeline of World Costume, Thames& Hudson 1993. London
audio practice workshops	
Knowledge verification:	***Supplement literature:***
writing exam oral exam	Saskia Dunian-Resses: Shuhe, Hirmer Munchen, 1991.
Precondition for testing:	
finished workshops practice	

Subject content:

Drawing and construction developing of shoe models for ladies and childrens footwear, inside parts, outsoles and various kinds of outsoles, hand and machine grading.

Development of common and specific competences:

Student is qualified for skills in freehanded drowing of designs and developing of shoe models of ladies and childrens shoes. Hand and machine grading.

	Course:	Footwear Modelling and Construction II
Teacher in charge:	***Course summary:***	4 (2+2+0)
Ujević Darko	***ECTS:***	5
	Course type:	mandatory tight discipline
	Course is preformed:	
	Name of study:	TOOT
	Module:	DO
	Study:	
	Term:	3rd term

Lecture type:	***Literature necessary for course:***
lectures practice	L. Vass, M. Molnar: Handmade shoes for man, Konnemann, England 2001. Dragutin Prelčec: Modeliranje u industriji obuće II, Zagreb, 1964.
Exercise type:	Klaudija Muller: The Timeline of World Costume, Thames& Hudson 1993. London
audio practice workshops	
Knowledge verification:	***Supplement literature:***
writing exam oral exam	Saskia Dunian-Resses: Shuhe, Hirmer Munchen, 1991.
Precondition for testing:	
finished workshops practice	

Subject content:

Drawing and construction developing of shoe models for ladies and childrens footwear, inside parts, outsoles and various kinds of outsoles, hand and machine grading.

Development of common and specific competences:

Student is qualified for skills in freehanded drowing of designs and developing of shoe models of ladies and childrens shoes. Hand and machine grading.

	Course:	Footwear Production Technology I
Teacher in charge:	***Course summary:***	5 (2+3+0)
Rogale Dubravko	***ECTS:***	5
	Course type:	mandatory tight discipline
	Course is preformed:	
	Name of study:	TOOT
	Module:	OBT
	Study:	
	Term:	3rd term

Lecture type:	***Literature necessary for course:***
lectures practice	1. D. Novina: Tehnologija industrijske proizvodnje obuće I i II dio, Zagreb, 1983. 2. A. Kusiik, Inteligent Manufacturihg System, Prentice Hall, Inc., Tokyo, 1990. 3. M. Bugarski: Industrijska proizvodnja obuće, Beograd 1983 4. P. Hlavaček: Kožedelna Tehnologie I i II dio, Brno, 1983.
Exercise type:	
workshops	

Knowledge verification:	***Supplement literature:***
preliminary exam	

Precondition for testing:	
Finished laboratory practice	

Subject content:

Elements of industrial footwear manufacturing. Factors of production and technological-economical influences. Footwear types according production technique. Technological operations and preparation of production. Construction procedures in making upper parts for footwear. Optimum material use algorithms. Cutting parts composing procedures. Construction procedures in making lower parts for footwear. CNC last construction.

Development of common and specific competences:

	Course:	Footwear Production Technology I
Teacher in charge:	***Course summary:***	5 (2+3+0)
Rogale Dubravko	***ECTS:***	6
	Course type:	mandatory tight discipline
	Course is preformed:	
	Name of study:	TOOT
	Module:	DO
	Study:	
	Term:	3rd term

Lecture type:	***Literature necessary for course:***
lectures practise	D. Novina: Tehnologija industrijske proizvodnje obuće I i II dio, Zagreb 1983. A. Kusiik, Inteligent Manufacturing System, Prentice Hall, Inc., Tokyo, 1990
Exercise type:	M. Bugarski: Industrijska proizvodnja obuće, Beograd 1983.
workshops	P. Hlavaček: Kožedelna Tehnologie I i II dio, Brno, 1983.

Knowledge verification:	***Supplement literature:***
exam	

Precondition for testing:	
finished practice	

Subject content:

Elements of the industrial footwear manufacturing. Factors of production, technological and economical infuences. Footwear types according to the way of production. Technological operations and production perparation. Methods of producing upper parts. Algorithms of the optimal use of materials. Joining of shoe parts. Methods of producing soles. CNC last construction.

Development of common and specific competences:

.

	Course:	Footwear Production Technology II
Teacher in charge:	***Course summary:***	5 (2+3+0)
Rogale Dubravko	***ECTS:***	6
	Course type:	mandatory tight discipline
	Course is preformed:	
	Name of study:	TOOT
	Module:	OBT, DO
	Study:	
	Term:	4th term

Lecture type:	***Literature necessary for course:***
lectures practice	D. Novina: Tehnologija industrijske proizvodnje obuće III i IV dio, Zagreb, 1983. A. Kusiak: Intelligent Manufacturing Systems, Prentice Hall, Inc., Tokyo, 1990
Exercise type:	P. Hlavaček:Kožedelna tehnologie II, brno, 1987.
workshops	M. Bugarski: Industrijska proizvodnja obuće, Beograd 1983.

Knowledge verification:	***Supplement literature:***
exam	

Precondition for testing:	
Finished practice	

Subject content:

Upper forming by deformation. Technological production methods of different types of footwear. Elements of footwear lasting. Footwear finishing operations. Basics of production rationalisation and optimization. Modular production. Elements of flexible production. Production processes and organizing of preparation in the system of quality assurance. Aautomation of some operations, processes and footwear production as a whole..

Development of common and specific competences:

	Course:	Fundamentals of clothing design
Teacher in charge: Vinković Maja	***Course summary:*** ***ECTS:*** ***Course type:*** ***Course is preformed:*** *Name of study:* *Module:* *Study:* *Term:*	4 (2+2+0) 5 mandatory TOOT OT pregraduation 3rd term

Lecture type:	***Literature necessary for course:***
lectures practice	Maja Vinković: Likovno projektiranje odjeće I., Tekstilno-tehnološki fakultet Sveučilišta u Zagrebu, 1999. Zagreb Matko Peić: Pristup likovnom djelu,Školska knjiga , Zagreb, 1987.
Exercise type:	Marijan Jakubin: Osnove likovnoga jezika i likovne tehnike, NIŠRO "Prosvjeta", Zagreb 1989.
audio practice	

Knowledge verification:	***Supplement literature:***
oral exam	Fashion magazines

Precondition for testing:	
Map with drawings done et workshops	

Subject content:

Lectures: learning the basic artistic items like: the principles of aestetic order, line, plane, surface, volume, colours, balance and proportions, the contrasts of light and shadow, the types of clothing according to aim, sex, fabrics, clothing project for construction preparation. Practice: drawing of technological clothing symbols on the blackboard with individual correction of students drawings.

Development of common and specific competences:

Students are taught to read clothing design as a document for clothing construction and manufacture. They learn the basic items of clothing types and classical materials. Clothing design is a sketch that contains details and itegrity, unity of artistic elements in the item of clothing. The children's wear is designed according to age and is harmonized with the requirements of game movements.

	Course:	GARMENT FINISHING
Teacher in charge: Soljačić Ivo Pušić Tanja	***Course summary:*** ***ECTS:*** ***Course type:*** ***Course is preformed:*** *Name of study:* *Module:* *Study:* *Term:*	3(1+2+0) 3 optional tight discipline TOOT TTK 3rd term
Lecture type: lectures practice	***Literature necessary for course:*** AATCC Garment Wet Processing, American Association of Textile Chemist and Colorists, NC USA 1994. Carr C.M. Textiles Industry, Blackie Academic&Professional, London, New York 1995.	
Exercise type: laboratory practice workshops seminars		
Knowledge verification: writing exam oral exam	***Supplement literature:*** papers from Tekstil, Textilveredlung, AATCC Review (in colaboration with teacher)	
Precondition for testing: oral exercise exam		

Subject content:

Denim Garmet Wet Processing (stone wash and enzymes); Decoloration, Laser treatment; Preparation for Garment Dyeing; Garment finishing, dyeing and printing; Wrinkle-Resistant Finishing of Cotton Fabrics and Garment; Garment Wet Processing Equipment; Advantages and disadvantages of garment finishing; Front Bonding Interlining on Top Cloth.

Development of common and specific competences:

Modern and high quality garment finishing with quick answer on buyers request is very actual. Denim Garment is special concerning season fashion changes.

	Course:	General Chemistry
Teacher in charge:	***Course summary:***	5 (2+2+1)
	ECTS:	7
	Course type:	mandatory basis
	Course is preformed:	
Mario Cetina	*Name of study:*	TOOT
	Module:	TTK, TTM, OT, OBT
	Study:	
	Term:	2nd term

Lecture type:	***Literature necessary for course:***
lectures seminars practice	I. Filipović, S. Lipanović, Opća i anorganska kemija I dio, IX. Izd.Školska knjiga, Zagreb, 1995. P. W. Atkins, M. J. Clugston, Načela fizikalne kemije, Školska knjiga, Zagreb 1995. (prijevod T. Cvitaš)
Exercise type:	M. Sikirica, Stehiometrija, Školska knjiga, Zagreb, 1994.
seminars laboratory practice	Z. Dugi, I. Lovreček, Osnove kemijskog računanja, Školska knjiga, Zagreb, 1973. B. Bach-Dragutinović, B. Mayer, Praktikum iz opće i anorganske kemije, Školska knjiga, Zagreb, 1994.
Knowledge verification:	***Supplement literature:***
preliminary exam writing exam oral exam	R. Chang, Chemistry, VI ed., 1998. WCB/McGraw-Hill, USA.

Precondition for testing:	
None	

Subject content:

Matter: elements, compounds, mixtures. Laws in chemistry. Solid, liquid and gaseous state. Quantum theory and electronic structure of atoms. Periodic table of elements. Chemical symbols, formulas and equations. Ionic, covalent and metal bond. Intramolecular interactions in liquids and solids. Physical properties versus chemical properties. Complex compounds. Chemical reactions. Chemical equilibrium. Solutions and colloids. Colligative properties of solutions. Electrolytes: acids, bases and salts. Electrochemistry. Thermochemistry. Elements of s, p, and d groups: properties, compounds and preparations.

Development of common and specific competences:

The course of "General chemistry" is based on modern concepts to introducing students in the atomic and molecular structure and types of bonding, as well as in the kinetic theory as it applies to the states of matter, solutions, rates of reaction and chemical equilibrium.
Chemical calculation (stoichiometry) is intended to introduce students in solving numerical chemical problems and applying natural laws.
Laboratory exercises are selected experiments chosen to introduce students to basic lab techniques and skills in order to illustrate core chemical principles.
This course is intended to supply a firm foundation for further courses in chemistry.

	Course:	General Chemistry
Teacher in charge:	***Course summary:***	5 (2+2+1)
	ECTS:	7
	Course type:	mandatory basis
	Course is preformed:	
Mario Cetina	*Name of study:*	TOOT
	Module:	DO
	Study:	
	Term:	1st term

Lecture type:	***Literature necessary for course:***
lectures seminars practice	I. Filipović, S. Lipanović, Opća i anorganska kemija I dio, IX. Izd.Školska knjiga, Zagreb, 1995. P. W. Atkins, M. J. Clugston, Načela fizikalne kemije, Školska knjiga, Zagreb 1995. (prijevod T. Cvitaš)
Exercise type:	M. Sikirica, Stehiometrija, Školska knjiga, Zagreb, 1994.
seminars laboratory practice	Z. Dugi, I. Lovreček, Osnove kemijskog računanja, Školska knjiga, Zagreb, 1973. B. Bach-Dragutinović, B. Mayer, Praktikum iz opće i anorganske kemije, Školska knjiga, Zagreb, 1994.
Knowledge verification:	***Supplement literature:***
preliminary exam writing exam oral exam	R. Chang, Chemistry, VI ed., 1998. WCB/McGraw-Hill, USA.

Precondition for testing:	
None	

Subject content:

Matter: elements, compounds, mixtures. Laws in chemistry. Solid, liquid and gaseous state. Quantum theory and electronic structure of atoms. Periodic table of elements. Chemical symbols, formulas and equations. Ionic, covalent and metal bond. Intramolecular interactions in liquids and solids. Physical properties versus chemical properties. Complex compounds. Chemical reactions. Chemical equilibrium. Solutions and colloids. Colligative properties of solutions. Electrolytes: acids, bases and salts. Electrochemistry. Thermochemistry. Elements of s, p, and d groups: properties, compounds and preparations.

Development of common and specific competences:

	Course:	German language I
Teacher in charge: Tabak Jasenka	***Course summary:*** ***ECTS:*** ***Course type:*** ***Course is preformed:*** *Name of study:* *Module:* *Study:* *Term:*	4 (2 + 2+ 0) 4 mandatory commonly educational TOOT TTM,TTK, OT, OBT, DO pregraduation 1st term
Lecture type: lectures practice	***Literature necessary for course:*** T. Marčetić: Pregled gramatike njemačkog jezika, Školska knjiga Zagreb R. Mrša: Rječnik tekstiono-tehnoloških riječi i izraza, TTF Sveučilišta u Zagrebu, 1994	
Exercise type: audio practice	Chosen and adapted articles on different problems of the textile science. Chosen and adapted articles on different problems of footwear manufacturing.	
Knowledge verification: preliminary exam	***Supplement literature:***	
Precondition for testing:		

Subject content:

Reading simple technical texts and revision of the basic verbal tenses. Acquiring of textile terminology. Grammar exercises with active and passive verbal forms. Usage of present and past participles.

Development of common and specific competences:

Practicing of the basic verbal structures gives the students a base for their future successful translating of technical texts. By reading the adapted texts, they acquire adequate proficiency in using the textile vocabulary.

	Course:	German Language II
Teacher in charge: Tabak Jasenka	***Course summary:*** ***ECTS:*** ***Course type:*** ***Course is preformed:*** *Name of study:* *Module:* *Study:* *Term:*	3 (1 + 2+ 0) 2 mandatory TOOT TTM, TTK, OT, OBT, DO 2nd term
Lecture type: lectures practice	***Literature necessary for course:*** T. Marčetić: Pregled gramatike njemačkog jezika, Školska knjiga Zagreb R. Mrša: Rječnik tekstiono-tehnoloških riječi i izraza, TTF Sveučilišta u Zagrebu, 1994	
Exercise type: audio practice	Chosen and adapted articles on different problems of the textile science.	
Knowledge verification: preliminary exam	***Supplement literature:***	
Precondition for testing:		

Subject content:

The construction zu+ infinitive with exercises. Compound sentences with special stress laid upon the relative clauses. Theory of translation and translation of adapted texts.

Development of common and specific competences:

Using grammar structures important for translation of technical texts, the students develop their skills of translating the technical texts into Croatian, which is one of the goals of this course.

	Course:	German language III
Teacher in charge: Tabak Jasenka	***Course summary:*** ***ECTS:*** ***Course type:*** ***Course is preformed:*** *Name of study:* *Module:* *Study:* *Term:*	2 (1 + 1+ 0) 2 mandatory TOOT TTM, TTK, OT, OBT, DO 3rd term
Lecture type: lectures practice	***Literature necessary for course:*** T. Marčetić: Pregled gramatike njemačkog jezika, Školska knjiga Zagreb R. Mrša: Rječnik tekstiono-tehnoloških riječi i izraza, TTF Sveučilišta u Zagrebu, 1994	
Exercise type: audio practice	Authentic articles taken from textile journals. Authentic articles taken from journals dealing with footwear manufacturing.	
Knowledge verification: preliminary exam	***Supplement literature:***	
Precondition for testing:		

Subject content:

Theory of translation and translation of texts from and into German language with practicing grammar structures that appear as translation problems (modal verbs with passive infinitive, present and past participles used as adjectives etc.)

Development of common and specific competences:

By translalting the authentic technical texts, the students are encouraged to read German technical literature, which is the starting point of their future permanent education.

	Course:	Hand weaving
Teacher in charge:	***Course summary:***	3 (0+1+2)
Kovačević Stana	***ECTS:***	2
	Course type:	optional tight discipline
	Course is preformed:	
	Name of study:	TOOT
	Module:	TTM
	Study:	
	Term:	3rd term

Lecture type:	***Literature necessary for course:***
seminars practice	Kovačević S.: Hand weaving, stručna knjiga, Centar za kreativne alternative & Prometej, 2003

Exercise type:	
audio practice workshops	

Knowledge verification:	***Supplement literature:***
preliminary exam	

Precondition for testing:	
Program	

Subject content:

Historical development of hand weaving and its preservation upto the present day, creation of unique and valuable things. Analysis of constructive parameters of traditional and eco fabrics by various weaving technologies. Familiarization with various technologies of weaving and their specificities. Analysis of yarn production and usage for hand weaving. Basic weave types, making weving pattern. Reading the weaving pattern, its transfer to the fabric and vice verca drawing a weavnig pattern from the fabric. Coordination of weave and colors. Calculation of fabric parameters. Familiarization and properties of the fabrics woven by hand weaving, their significance and today's application.

Development of common and specific competences:

Acquisition of knowledge and skills how to make fabrics on hand weaving machines and other help devices. Development of abilities and skills in matching colors and weave type. Acquisition of knowledge of using various technologies of weaving. Knowledge of making traditional fabrics and new fashionable fabrics for different applications. Development of imagination and abilities to produce unique fabrics.

	Course:	History of Art
Teacher in charge: Režek Wilson Nina	***Course summary:*** ***ECTS:*** ***Course type:*** ***Course is preformed:*** *Name of study:* *Module:* *Study:* *Term:*	3(2+0+1) 4 optional TOOT DO

Lecture type:	***Literature necessary for course:***
lectures seminar	Janson H.W., Janson Anthony F., Povijest umjetnosti, dopunjeno izdanje, «Stanek» d.o.o. Varaždin, 2003. Edward Lucie-Smith: Vizualne umjetnosti 20. stoljeća, NZ matice Hrvatske, 1990.
Exercise type:	Gombrich: Povijest umjetnosti Analiza pojedinih djela kroz stilske odrednice
Knowledge verification:	***Supplement literature:***
exam	Jadranka Damjenov: Vizualni jezik i likovna umjetnost, Školska knjiga, Zagreb, 1991.
Precondition for testing:	
Seminar paper	

Subject content:

Survey of the development of art throughout human history, i.e. prehistory, ancient civilizations, Medieval art, the Renaissance, Mannerism, Baroque, Rococo, Classicism to the beginnings of Modern art at the end of the 19th century and the art of the 20th and 21st centuries based on mentioned art periods in Croatia.

Development of common and specific competences:

The goal of this course is to focus the attention on transformations of art forms, observing and defining stylistic distinquishing features in connection with different events of social life. Forming the basis for understanding of the phenomenon of modern art and for transformations of the phenomenon of dressing through history.

	Course:	History of Footwear and Accessories
Teacher in charge: Režek Wilson Nina	***Course summary:*** ***ECTS:*** ***Course type:*** ***Course is preformed:*** *Name of study:* *Module:* *Study:* *Term:*	4 (2+0+2) 5 mandatory TOOT DO 5th term
Lecture type: lectures seminars	***Literature necessary for course:*** James Laver: A Concise History of Costume, London, Thame and Hudson, 1982 John Peacock: Shoes, Thames& Hudson, 2005	
Exercise type:		
Knowledge verification: exam	***Supplement literature:*** Ingrid Loschek: Accessories, Bruckmann, München, 1993	
Precondition for testing: Seminar paper		

Subject content:

Survey of development and changes of footwear and clothes accessories through history, since prehistory till today. Footwear and accessories are seen as a segment of clothes composition, so they underlie the same laws as clothes changes.Becoming aware of basic stylistic characteristics of clothes, footwear and accessories, clothes is seen as a part of the whole visual and social environment.

Development of common and specific competences:

The analytic approach to clothes and accessories develops the ability to see their visual significance and the awareness of clothes as a social phenomenon. At the same time the ability to establish creteria for aesthetic eveluation of clothes is developed.

	Course:	Jacquard weaving
Teacher in charge:	***Course summary:***	5(2+3+0)
Strmečki Valent	***ECTS:***	7
	Course type:	optional tight discipline
	Course is preformed:	
	Name of study:	TOOT
	Module:	TTM
	Study:	
	Term:	5th term

Lecture type:	***Literature necessary for course:***
lectures practice	Kovačević S., K. Dimitrovski, J. Hađina: Procesi tkanja, Tekstilno tehnološki fakultet, Zagreb, (udžbenik u tisku). Hofer A.:Stoffe 1, Deutscher Fachverlag GmbH, Frankfurt am Mein, 1990.
Exercise type:	
audio practice workshops	
Knowledge verification:	***Supplement literature:***
writing exam oral exam	Zaštita od požara, ZIRS, Zagreb, 1998. Buka, ZIRS, Zagreb, 1995.
Precondition for testing:	www.gesamttextil.de
Passed exam from Spinning technology and Yarn preparation technology	

Subject content:

Raw materials for jacquard wovens. Jacquard loom types and gauge. Active jack color choosing. Technical posibilities and limitations in dimensions of pattern making. Electrical loom programing. English and french way of harness cord adjusment. Adjusting reciprocitivity of jacquard and plain weaving loom. Jacquard weaving achievements. Audio practice: Pattern making methodology. Technical posibilities and limitations in pattern making. Workshop practice: Weaving machine managing. Loom alignment considering tape of fabric. Electrical loom programing.

Development of common and specific competences:

Student prevailing production of complexed fashion jacquard. He can single-handedly adjust jaquard loom.

	Course:	Knitting Technology
Teacher in charge:	***Course summary:***	7(3+4+0)
Vrljičak Zlatko	***ECTS:***	8
	Course type:	mandatory tight discipline
	Course is preformed:	
	Name of study:	TOOT
	Module:	TTM
	Study:	
	Term:	5th term

Lecture type:	***Literature necessary for course:***
lectures practice	Spencer D.J.: Knitting Technology, pergamon Press, London More autors: Tekstilni priručnik, Tekstilni inštitut, Maribor

Exercise type:	Weber P.-K. und Weber M.: Wirkerei und Strickerei, Deutsche Fachverlag GmbH, Frankfurt am Main 2004.
audio practice laboratory practice	

Knowledge verification:	***Supplement literature:***
preliminary exam	Offermann P. I H. Tausch-Marton: Grundlagen der Maschenwaren technologie, Leipzig 1978.

Precondition for testing:	
All exams of the first year of study passed	

Subject content:

Process of loop formation. Techniques an methods of forming the initial loop courses on latch needle knitting maschines, on two-bar knitting machines, on multifeed circular rib and interlock machines, on automatic circular hosiery knitters and warp knitting machines. Structure and properties of knitted fabrics. Methods of manufacturing the garments of preset shape. Characteristics of circular knitting machines. Yarns for circular knitting. Machines for the production of transfer patterns. Basic warp knitting principles. Single needle bar structures. Characteristics of tricot and raschel machines. The knitting action of the single needle bar raschel. Compound needle warp knitting machines. Plain tricot wirth two guide bars. Patterned and combined stitches.

Development of common and specific competences:

Based on the acquiered knowledge a student becomes familiar with knitwear manufacturing.

	Course:	Last Construction
Teacher in charge:	***Course summary:***	4(2+2+0)
Mijović Budimir	***ECTS:***	4
	Course type:	mandatory tight discipline
	Course is preformed:	
	Name of study:	TOOT
	Module:	DO
	Study:	
	Term:	6th term

Lecture type:	***Literature necessary for course:***
lectures practice	1. Mandić: Građa i funkcija stopala, Zagreb, 1974. 2. D. Prelčec: Modeliranje u industriji obuće I., Zagreb, 1964.
Exercise type:	3. CIMTECH PROTOTYPE, Operator˙s Guide, Cimtech-Guide, Cimtech-Microdynamics Inc.Trento 1989. 4. 3D FDS Training Guide, Last Diditising, Munchen, 1992.
workshops	

Knowledge verification:	***Supplement literature:***
preliminary exam writing exam oral exam	

Precondition for testing:	
Finished laboratory practice	

Subject content:

Basics of last construction. Procedures of last construction. Adjustment of last construction dependent on heel height. Adjustment of last shape in dependent on different width. 3D last digitalization. Recording of various key points. Designing and correction of lasts top. 3D drawing of basic last lines. Size grading of last.

Development of common and specific competences:

	Course:	Leather production
Teacher in charge: Bišćan Jasenka	***Course summary:*** ***ECTS:*** ***Course type:*** ***Course is preformed:*** *Name of study:* *Module:* *Study:* *Term:*	5 (2 + 3 + 0) 6 mandatory tight discipline TOOT OBT pregraduation 3rd term
Lecture type: lectures lectures	***Literature necessary for course:*** Thorstensen T. C.: Practical Leather Technology, Krieger Publ. Co.,Malabar, 1993. K. Bienkiewicz: Physical Chemistry of Leather making,Krieger Publ. Co., Malabar, 1983.	
Exercise type: laboratory practice	H. Grgurić, T. Vuković, Ž.Bajza: Tehnologija kože i krzna, Zagreb, 1985. Z. Radanović: Poznavanje kožarskih materijala i njihovo ispitivanje, Zagreb, 1989. E. Heidemann: Fundamentals of Leather Manufacturing, E. Roether KG, Darmstadt, 1993.	
Knowledge verification: preliminary exam writing exam oral exam	***Supplement literature:*** I. Filipović, S. Lipanović: Opća i anorganska kemija, ŠK, Zagreb, 1995.. S. H. Pine: Organska kemija,ŠK, Zagreb, 1994.	
Precondition for testing: passed practice		

Subject content:

Physical chemistry of collagen. Chemical constitution of collagen and hierarchical structure of biomaterials. Preparation of leather material for processing.Principles of preparation, leather and fell tanning. Equipment for processes in leather production. Theory of neutralisation, dyeing and greasing. Tanning difusion in leather. Theory of tanning binding to collagen.Factors influencing tanning binding, practical tanning.Faults and tanning control. Kinds of tannings.Physico-chemical and mechanical finishing operations.Finished leathers, kinds and properties. Ecology, waste treatment, waste waters and their treatment.

Development of common and specific competences:

Introducing of raw materials, materials and operations, tools, machines and devices.Testing of raw materials, materials, operations and devices. Leather production ecology. Introducing of finished leathers, kinds and properties.

	Course:	Machinery and Automata for Clothing Technology
Teacher in charge:	***Course summary:***	6 (2+4+0)
Nikolić Gojko	***ECTS:***	7
	Course type:	mandatory tight discipline
	Course is preformed:	
	Name of study:	TOOT
	Module:	OT
	Study:	
	Term:	4th term

Lecture type:	***Literature necessary for course:***
lectures practice	Nikolić G.: Mehanizmi odjevnih strojeva, Zrinski-TTF, Čakovec, 2000 Nikolić G: Osnove automatizacije strojeva za proizvodnju odjeće, TTF-Zrinski, Čakovec, 2001
Exercise type:	Nikolić G., Šomođi Ž.: Zbirka zadataka iz mehanizama i automatizacije strojeva u odjevnoj tehnologiji, Zrinski, Čakovec 1999
audio practice laboratory practice	

Knowledge verification:	***Supplement literature:***
writing exam oral exam	Nikolić G.: Pneumatika (III. Izdanje), Školske novine, Zagreb, 2002 Nikolić G.: Upravljanje (II. Izdanje), Školske novine, Zagreb, 2003
Precondition for testing:	Holder M. i dr.: Der Industrie-PC in Automatisierungstechnik, Hueting Verlag, Heidelber 1999 Bliesner R. i dr..: Programmable Logic Controller, Festo Didactic KG., Esslingen 1995

Subject content:

Representation and analysis of typical mechanisms in clothing manufacturing machines. Types and common properties of characteristic machinery for the clothing industry: spreading and cutting machines, sewing machines and automata, front fusing machines, ironing machines, automata and automatic production lines. Automation of clothing manufacturing machinery. Pneumatic and electro-pneumatic executable and control elements, signallers, software packages (PLC) integrated in clothing manufacturing machinery. Fuzzy logic applied in clothing manufacturing machinery.

Development of common and specific competences:

Knowledge of the operation of the mechanisms of clothing manufacturing machinery. Knowledge of the fundamentals of the applied automation of clothing manufacturing machinery. Knowledge of executable pneumatic and electro-pneumatic elements used in the clothing technology, capability of creating given simple control diagrams. Knowledge of basic signallers used on machinery and their correct application. Knowledge of simple PLC and their programming to control executable elemnts used in clothing manufacturing machinery.

	Course:	Machinery and mechanisms in footwear industry I
Teacher in charge: Nikolić Gojko	***Course summary:*** ***ECTS:*** ***Course type:*** ***Course is preformed:*** *Name of study:* *Module:* *Study:* *Term:*	3 (2+1+0) 4 mandatory tight discipline TOOT OBT 4th term
Lecture type: lectures practice	***Literature necessary for course:*** Nikolić G.: Mehanizmi odjevnih strojeva, Zrinski-TTF, Čakovec, 2000 Nikolić G.: Osnove automatizacije strojeva za proizvodnju odjeće, TTF-Zrinski, Čakovec 2001	
Exercise type: audio practice laboratory practice	Nikolić G., Šomođi Ž.: Zbirka zadataka iz mehanizama i automatizacije strojeva u odjevnoj tehnologiji, Zrinski, Čakovec 1999 Jecić S.: Mehanika II, Tehnička knjiga, Zagreb, 1989 Komissariva, A.I.: Proektirovanie i rascet mashin obuvnih i svejnih proizvodstvov, Mashinostroenie, Moskva, 1978	
Knowledge verification: writing exam oral exam	***Supplement literature:*** Muftić O.: Teorija mehanizama, Školska knjiga, Zagreb, 1983 Muftić O.: Mehanika I, Tehnička knjiga, Zagreb, 1989	
Precondition for testing:		

Subject content:

Fundamentals of the theory of mechanisms. Sewing machinery and automata and their mechanisms. Aggregates for making bottom stock. Mechanisms for making upper leather by defromation. Fitting mechanisms. Design and construction of lasts. Materials and thermal procedures in last making. Last making mechanisms, ruffing and joining. Injection molding unit.

Development of common and specific competences:

Knowledge of the operation of machine mechanisms of footwear manufacture. Knowledge of the operation principles of the automation clothing manufacturing machinery. Knowledge of executable pneumatic and electro-pneumatic elements applied in footwear technology, possibility of creating simple control schematic diagrams. Knowledge of basic machine signallers.

	Course:	Machinery and mechanisms in footwear industry II
Teacher in charge: Nikolić Gojko	***Course summary:*** ***ECTS:*** ***Course type:*** ***Course is preformed:*** *Name of study:* *Module:* *Study:* *Term:*	3 (2+1+0) 4 mandatory tight discipline TOOT OBT 5th term
Lecture type: lectures practice	***Literature necessary for course:*** Nikolić G.: Osnove automatizacije strojeva za proizvodnju odjeće, TTF-Zrinski, Čakovec 2001 Komissariva, A.I.: Proektirovanie i rascet mashin obuvnih i svejnih proizvodstvov, Mashinostroenie, Moskva, 1978	
Exercise type: audio practice laboratory practice		
Knowledge verification: writing exam oral exam	***Supplement literature:***	
Precondition for testing:		

Subject content:

Fitting tools. Design and construction of lasts. Materials and thermal procedures in last making. Materials and thermal procedures in last making. Last making mechanisms, ruffing and joining. Injection molding unit. Production lines and machinery for making various footwear types.

Development of common and specific competences:

Possibility of last design and selection of materials for last making. Determination of necessary machinery for a new technological procedure of footwear production.

	Course:	Machinery and Mechanisms in Footwear Industry
Teacher in charge: Nikolić Gojko	***Course summary:*** ***ECTS:*** ***Course type:*** ***Course is preformed:*** *Name of study:* *Module:* *Study:* *Term:*	4 (2+2+0) 4 mandatory tight discipline TOOT DO 4th term
Lecture type: lectures practice	***Literature necessary for course:*** Nikolić G.: Mehanizmi odjevnih strojeva, Zrinski-TTF, Čakovec, 2000 Nikolić G.: Osnove automatizacije strojeva za proizvodnju odjeće, TTF-Zrinski, Čakovec 2001	
Exercise type: audio practice laboratory practice	Nikolić G., Šomođi Ž.: Zbirka zadataka iz mehanizama i automatizacije strojeva u odjevnoj tehnologiji, Zrinski, Čakovec 1999 Jecić S.: Mehanika II, Tehnička knjiga, Zagreb, 1989 Komissariva, A.I.: Proektirovanie i rascet mashin obuvnih i svejnih proizvodstvov, Mashinostroenie, Moskva, 1978	
Knowledge verification: exam	***Supplement literature:*** Muftić O.: Teorija mehanizama, Školska knjiga, Zagreb, 1983 Muftić O.: Mehanika I, Tehnička knjiga, Zagreb, 1989	
Precondition for testing:		

Subject content:

Fundamentals of the theory of mechanisms. Sewing machinery and automata and their mechanisms. Aggregates for making bottom stock. Mechanisms for making upper leather by deformation. Fitting mechanisms. Design and construction of lasts. Materials and thermal procedures in last making. Last making mechanisms, ruffing and joining. Injection molding unit.

Development of common and specific competences:

Knowledge of the operation of machine mechanisms in footwear manufacture. Knowledge of the operation principles of the automatic footwear manufacturing machines. Knowledge of executable pneumatic and electro-pneumatic elements applied in footwear technology, possibility of creating simple schematic diagrams. Knowledge of basic machine signallers.

	Course:	Management
Teacher in charge:	***Course summary:***	3 (2+0+1)
	ECTS:	4
Novak Ivan	***Course type:***	optional
	Course is preformed:	
	Name of study:	TOOT
	Module:	DO
	Study:	
	Term:	

Lecture type:	***Literature necessary for course:***
lectures seminars	Buble, M.: Osnove menadžmenta, Sinergija, Zagreb, 2006. Andrijanić,I: Vanjska trgovina, Mikrorad, Zagreb, 2001.

Exercise type:	Bebek, B., Kolumbić,A.: Poslovna etika, Sinergija, Zagreb, 2005. Batestin, V.: carinski glosar: petojezični rječnik glavnih carinskih pojmova, Institut za javne financije, Zagreb, 2005.
seminar	

Knowledge verification:	***Supplement literature:***
Preliminary exam	Marić, G. (2006): Upravljanje poslovnim procesima, Školska knjiga, Zagreb Ruža F., i sur.: ekonomika poduzeća, TIVA, Varaždin, 2002.

Precondition for testing:	Babić,M. i Babić, A. (2008) Međunarodna ekonomija, MATE d.o.o., Zagreb, 2000.
Regular attending of lectures, seminar	

Subject content:

1.) Definition and description of business processes
2.) Management of business processes, definition, characteristics, practical examples
3.) Quality management
4.) Structuring of global markets
5.) Global concept of footwear industry in space-time dimension
6.) Footwear industry development trends
7.) General information about foreign trade business operations
8.) Cultural habits
9.) Knowledge of international customs systems and regulations

Development of common and specific competences:

Students acquire knowledge of business processes and their management, they become acquainted with the concept of quality management, structuring of global markets, global concentration and footwear industry development trends. Students will obtain basic information about foreign trading, business etics, cultural habits and customs systems and regulations.

	Course:	Materials in footwear production I
Teacher in charge:	***Course summary:***	4 (2 + 2 +0)
Rogale Dubravko	***ECTS:***	4
	Course type:	mandatory tight discipline
	Course is preformed:	
	Name of study:	TOOT
	Module:	OBT
	Study:	
	Term:	4th term

Lecture type:	***Literature necessary for course:***
lectures practice	Thorstensen T. C.: Practical Leather Technology, Krieger Publ. Co., Malabar, 1993. E. Heidemann: Fundamentals of Leather manufacture, Eduard Roetherb KG, Dormstadt, 1993.

Exercise type:	
laboratory practice	

Knowledge verification:	***Supplement literature:***
preliminary exam writing exam oral exam	

Precondition for testing:	
passed practice	

Subject content:

Metodology of material observing and understanding, Natural leather, natural ruber.Behaviour at special conditions.Materials for footwear parts. Quality control elements of materials in quality assurance system of product.

Development of common and specific competences:

Introduction of material properties.

	Course:	Materials in footwear production II
Teacher in charge: Rogale Dubravko	***Course summary:*** ***ECTS:*** ***Course type:*** ***Course is preformed:*** *Name of study:* *Module:* *Study:* *Term:*	3(1 + 2 + 0) 3 mandatory tight discipline TOOT OBT 6th term
Lecture type: lectures practice	***Literature necessary for course:*** Compounding and Processing, Applied Science Publ. London, 1981.	
Exercise type: laboratory practice		
Knowledge verification: oral exam	***Supplement literature:***	
Precondition for testing: passed practice		

Subject content:

Plastics, thermoplastics, elastomers.Production processes. Regeneration possibilities of material.Ecological justified production and processing of materials.Quality control elements of material in quality assurance product system.

Development of common and specific competences:

Introduction of man made materials for footwear production.

	Course:	Materials in Footwear Production
Teacher in charge:	***Course summary:***	4 (2 + 2 +0)
A.M.Grancarić	***ECTS:***	4
	Course type:	mandatory tight discipline
	Course is preformed:	
	Name of study:	TOOT
	Module:	DO
	Study:	
	Term:	5th term

Lecture type:	***Literature necessary for course:***
lectures practice	Thorstensen T. C.: Practical Leather Technology, Krieger Publ. Co., Malabar, 1993. E. Heidemann: Fundamentals of Leather manufacture, Eduard Roetherb KG, Dormstadt, 1993.

Exercise type:	
laboratory practice	

Knowledge verification:	***Supplement literature:***
exam	Compounding and Processing, Applied Science Pub., London,1981

Precondition for testing:	
passed practice	

Subject content:

Metodology of material observing and understanding, Natural leather, natural ruber.Behaviour at special conditions.Materials for footwear parts. Quality control elements of materials in quality assurance system of product.

Development of common and specific competences:

Introduction of material properties.

	Course:	MathematicsI
Teacher in charge:	***Course summary:***	6(3+3+0)
	ECTS:	8
	Course type:	mandatory basis
	Course is preformed:	
	Name of study:	TOOT
	Module:	TTK,TTK,OT, OBT
	Study:	
	Term:	1st term

Lecture type:	***Literature necessary for course:***
lectures	1. T. Bradić, J. Pečarić, R. Roki, M. Strunje: Matematika za tehnološke fakultete, Element, Zagreb, 1999. 2. B.P.Demidovič, Zadaci i riješeni primjeri iz više matematike s primjenom na tehničke nauke, Tehnićka knjiga , Zagreb,1978.
Exercise type:	3. V.P. Minorski, Zbirka zadataka iz više matematike, Tehnička knjiga, Zagreb
audio practice	

Knowledge verification:	***Supplement literature:***
writing exam oral exam	1. Murray, Spiegel, Advanced Mathematics for Engineers and Scientist, Schaum's Outline Series, McGraw Hill Company,1971. 2. N. Elezović: Linearna algebra, Element, Zagreb, 1995

Precondition for testing:	

Subject content:

Sets of numbers. Elements of linear algebra. Sequences. Functions. Limits and continuity. Derivatives and applications. Indefinite and definite itegrals and applications.

Development of common and specific competences:

The aim of this program is to serve as a base to apply mathematics in engineering and technology.

	Course:	Mechanical Textile Finishing
Teacher in charge: Katović Drago	***Course summary:*** ***ECTS:*** ***Course type:*** ***Course is preformed:*** *Name of study:* *Module:* *Study:* *Term:*	5(2+3+0) 6 mandatory TOOT TTK 5th term
Lecture type: lectures practice	***Literature necessary for course:*** I.Soljačić D.Katović, A.M.Grancarić: Osnove oplemenjivanja tekstila Knjiga I Pripremni procesi I strojevi za oplemenjivanje D.Katović, S.Bischof Vukušić, I.Soljačić, A.M.Grancarić: Osnove oplemenjivanja tekstila Knjiga III Suhi procesi oplemenjivanja	
Exercise type: laboratory practice workshops	I.Soljačić,D.Katović, A:M:Grancarić: Osnove oplemenjivanja tekstila Knjiga I . Pripremni procesi i strojevi za oplemenjivanje D.Katović, S.Bischof Vukušić, I.Soljačić, A.M.Grancarić: Osnove oplemenjivanja tekstila Knjiga III Suhi procesi oplemenjivanja	
Knowledge verification: oral exam	***Supplement literature:*** H.K.Rouette: Encyclopedia of Textle Finishing Springer 2002 H.Rouette G.Kittan: Leitfaden der Woll-Ausrustung Konradin 1990	
Precondition for testing: Finished laboratory practice, writen report of laboratory practice	P.R. Brady: Finishing ond Wool Fabric Properties Geelong 1997	

Subject content:

Operation of mechanical Finishing : Cleaning, Singeing. Smoothing of textile materials; Calandering, Pressing, Mangling Napping, Shearing, Suedering, Brushing, Ratinering, Polishing, Beating,. Dimensional stability cellulosic, wool and synetic . Procesess Control

Development of common and specific competences:

The Course will provide students with knowledge of Mechanical Finishing. During the study student have practice on machinery of mechanical finishing.

	Course:	Mechanics
Teacher in charge:	***Course summary:***	5 (2+2+1)
Cerovec Milan	***ECTS:***	6
	Course type:	mandatory basis
	Course is preformed:	
	Name of study:	TOOT
	Module:	TTM
	Study:	
	Term:	3rd term

Lecture type:	***Literature necessary for course:***
lectures practice	F.P. Beer et al. Vector Mechanics for Engineers, Statics, McGraw-Hill Science/Engineering/Math, 2003 F.P. Beer et al. Vector Mechanics for Engineers, Dynamics, McGraw-Hill Science/Engineering/Math, 2003
Exercise type:	D. Bazjanac Tehnička mehanika I Tehnička knjiga, Zagreb, 1976.
audio practice seminars	D. Bazjanac Tehnička mehanika III Tehnička knjiga, Zagreb, 1980.

Knowledge verification:	***Supplement literature:***
writing exam oral exam	

Precondition for testing:	
Physics I, Mathematics I	

Subject content:

Properties of mechanics systems. General laws and principles of mechanics. Kinematics of rigid body. Composed motion. Dynamics of rigid bodies. Statical concept of force. Equilibrium and equilibrium conditions. Centroid and methods of its determination. Body stability. Elasticity and deformations of rigid body.

Development of common and specific competences:

This program gives the basis of mechanics necessary for following other engineering courses.

	Course:	New Spinning Methods
Teacher in charge:	***Course summary:***	5 (2+3+0)
Skenderi Zenun	***ECTS:***	7
	Course type:	optional tight discipline
	Course is preformed:	
	Name of study:	TOOT
	Module:	TTM
	Study:	
	Term:	5th term

Lecture type:	***Literature necessary for course:***
lectures	McCreight D.J., R.W. Feil, J.H. Booterbaugh, E.E. Backe: Short staple yarn manufacturing, Woodhead Publishing Limited, 1999 Nikolić M. i Perić P. Teorija in tehnologija predenja, Univerza v Ljubljani, Ljubljana, 1990
Exercise type:	Simpson W.S. and G.H. Crawshaw: Wool: Science and technology, Woodhead Publishing Limited, Cambridge, 2002
audio practice workshops laboratory practice	

Knowledge verification:	***Supplement literature:***
oral exam	Articles published in the Textile Journal, Zagreb

Precondition for testing:	
Regular attendance of lectures and practice	

Subject content:

Natural and man-made fibres for rotor, aerodynamic, wraped, self-twist and friction yarns. Routes of nunconventional yarn productioun. Rotor, aerodynamic, self-twist, wraped and friction spinning. Properties of quality of new yarns.

Development of common and specific competences:

The aim of the course is to familiarize with raw materials and routes of spinning unconventional yarns from and routes of new methods of yarn production from staple fibres and/or comosite yarn. Special attention is paid to rotor, aerodynamic, friction, wraped spinning processes, as well as properties of their yarns.

	Course:	Nonwoven and technical textile
Teacher in charge:	***Course summary:***	4 (2+2+0)
Skenderi Zenun	***ECTS:***	5
	Course type:	mandatory tight discipline
	Course is preformed:	
	Name of study:	TOOT
	Module:	TTM
	Study:	
	Term:	5th term

Lecture type:	***Literature necessary for course:***
lectures	Albrecht W.,H. Fuchs, W.Kittelmann:Nonwoven Fabrics,WILEY-VCH Verlag GmbH & Co.KGaA, Weinheim, 2003 Horrocks A R, S C Anand: Hadnbook of technical textile, Woodhead Publishing Limited, Cambridge, 2000

Exercise type:	
audio practice laboratory practice	

Knowledge verification:	***Supplement literature:***
writing exam	Papers from magazine Tekstil, HIST

Precondition for testing:	
Regular attendance of lectures and practice	

Subject content:

Natural and man-made fibres for nonwoven and technical textile making. Fibre praparation for making. Web making on card machine. Aerodynamical method of web making. Web making with chemical spinning process. Wet process of web making. Mechanical and thermical processes of web bonding. Chemical processes of web bonding. Technical yarns, woven and knitted fabrics. Nonwoven technical structures. Fields of applications of nonwoven and technical textile. Textile reinforced composites. Quality parameters of nonwoven and technical textile.

Development of common and specific competences:

The aim of the course is transfering the knowledge related to fibres for nonwoven and technical textile making, the routes of their making, the technical and technologycal parametres of processes and fabrics. Properties and structures of technical fibres, yarns, nonwovwn, woven and knitted technical products.

	Course:	Optical Methods and Laser Technique
Teacher in charge:	***Course summary:***	3 (1+1+1)
Cerovec Milan	***ECTS:***	4
	Course type:	optional basis
	Course is preformed:	
	Name of study:	TOOT
	Module:	TTK,DO, OBT
	Study:	
	Term:	

Lecture type:	***Literature necessary for course:***
lectures seminars	R.Guenter : Modern Optics, ; John Wiley & Sons, 1990. E.Heht, A Zajac : Optics, Addison- W.Esley Publishing Coumpany, 2002.
Exercise type:	P. Filippi. Basic Physics Theory & Methods.
audio practice seminars	

Knowledge verification:	***Supplement literature:***
preliminary exam	H.J. Gray, A. Issacs : A New Dictionary of Physics , London, 1975.

Precondition for testing:	

Subject content:

Light and radiation. Primary and secondary sources. Methods of spectral analysis. Elements of colourimetry. Colour equation. Reproduction of colours of monochromatic light. Saturated intercolours and purple colours. Application of colourimetry. Optical instruments. Optical misroscope.Optically active substances. Laser oscillator.Laser application in treatment of materials.

Development of common and specific competences:

Students get aquainted with optical methods, laser and their application.

	Course:	Organic Chemistry
Teacher in charge:	***Course summary:***	4 (2+2+0)
Tralić-Kulenović Vesna	***ECTS:***	5
	Course type:	mandatory basis
	Course is preformed:	
	Name of study:	TOOT
	Module:	TTK, OBT
	Study:	
	Term:	3rd term

Lecture type:	***Literature necessary for course:***
lectures practice	V. Tralić-Kulenović, B. Karaman, L. Fišer-Jakić, Uvod u organsku kemiju, TTF, Zagreb, 2004. S. H. Pine, Organska kemija, Školska knjiga, Zagreb, 1994.

Exercise type:	S. Borčić, O. Kronja, Praktikum preparativne organske kemije, Školska knjiga, Zagreb, 2004.
laboratory practice	

Knowledge verification:	***Supplement literature:***
preliminary exam writing exam oral exam	J. Clayden, N. Greeves, S. Warren, P. Wothers, Organic Chemistry, Oxford Universty Press, Oxford, 2001. D. R. Palleros, Experimental Organic Chemistry, John Wiley & Sons, New York, 2000.

Precondition for testing:	
Finished laboratory practice	

Subject content:

Structure of organic molecules. Structure of carbon atom and covalent bonding. Reaction of organic compounds (types of organic reactions, mechanism, energy and reaction kinetics). Nomenclature of organic compounds-IUPAC and common names. Hydrocarbons: clasification, structure, isomerism, preparation, properties and reactions, usual reaction's mechanisms (radical supstitution, electrofilic adition, electrofilic aromatic supstitution). Hydrocarbons derivatives: halogen derivatives, alcohols and phenols, ethers and epoxides, aldehydes and ketones, carboxylic acids and functional derivatives of carboxylic acids, nitrogen compounds, organosulfur compounds, heterocyclic compounds; structure, preparation, properties and reactions, mechanisms. Polymerisation reactions.

Development of common and specific competences:

As a basic course, the Organic Chemistry provides the knowledge of the structure of organic compounds, especially as reflected in its characteristics. It educes the fundaments for understandings the nature of materials present in textile production (natural and synthetic), as well as processing of such materials, predominantly based on organic chemical reactions (dyeing, printing, finishing, etc.). During laboratory exercises, students acquire basic skills in observing, interpreting and predicting organic reactions.

	Course:	Pattern and Construction of Knitted Fabrics
Teacher in charge: Vrljičak Zlatko	***Course summary:*** ***ECTS:*** ***Course type:*** ***Course is preformed:*** *Name of study:* *Module:* *Study:* *Term:*	5(2+3+0) 5 mandatory tight discipline TOOT TTM 6th term

Lecture type:	***Literature necessary for course:***
lectures practice	Ch. Iyer, P.Mamel i W. Schaech: Rundstricken, Bamberg 1991 More authors: Bindungslehre der Kulierwirkerei, Leipzig.

Exercise type:	Spencer D.: Knitting Technology, Pergamon Press, Oxford 1983
audio practice laboratory practice	

Knowledge verification:	***Supplement literature:***
preliminary exam writing exam oral exam	V. Lasić: Vezovi pletiva, Zageb 1997. S.Raz: Flat Knitting, Bamberg, 1991.

Precondition for testing:	
All exams of the first year of study passed	

Subject content:

Elements of knitted loop structure. Comparison of weft and warp knittng. Single-Jersey fabric. Horizontal striping. Intarsia. Plating. Pluch structures. Weft knitted Jacquard. Single-Jersey Jacquard. Rib fabric. Milano rib. Double cardigan. Swiss double pique. French double pique. Interlock fabric. Interlock piquette. Interlock modified. Rib Jacquard. Full Jacquard. Coloured stitch designs in weft knitting. Individual stitch selection. Computer graphics and pattern preparation. Three-dimensional wale fashioning. Rib Jacquard double-jersey structures. Atlas lapping. Plain tricot structures knitted with two full set guide bars. Velour and velvet structures. Surface interest, relief and openwork structures. Marquisette. Voile. Lece, curtain-net and elastic fabrics.

Development of common and specific competences:

After the exam a student has a knowledge for construction of different knitted fabric patterns.

	Course:	Physics
Teacher in charge: Cerovec Milan	***Course summary:*** ***ECTS:*** ***Course type:*** ***Course is preformed:*** *Name of study:* *Module:* *Study:* *Term:*	4 (2+2+0) 5 optional TOOT DO
Lecture type: lectures practice	***Literature necessary for course:*** Ditschburn R.W.: Light, Blackie and Son, London, 1963 R. gueuther: Modern optics, John Wiley and Sons, 1990	
Exercise type: Audio practice	E. Hect, A. Zajac:Optics, Addison Wesley Publishing Company, 2002	
Knowledge verification: exam	***Supplement literature:*** H. J. Gray, A. Issacs: New dictionary of Physics, London, 1975	
Precondition for testing:		

Subject content:

Physical measuring and errors. Standards, dimensions and units.Laws of motion. Space and time graphs of motion. Equilibrium, gravity of a body, stability. Nature of light. Visible spectrum of electromagnetic waves. White light. Monochromatic light. Laws of geometrical optics. Optical instruments. Getting pictures by means of optical systems. Band of colours- visible spectrum. Colour vision. System of colour specification. Colour reproduction of monochromatic light.

Development of common and specific competences:

The objective of the course is to acquire a basic knowledge in mechanics and optics.

	Course:	Physics I
Teacher in charge:	***Course summary:***	5 (3+2+0)
Cerovec Milan	***ECTS:***	6
	Course type:	mandatory basis
	Course is preformed:	
	Name of study:	TOOT
	Module:	TTM, TTK, OT, OBT
	Study:	
	Term:	1st term

Lecture type:	***Literature necessary for course:***
lectures practice	T. Duncan: Advanced PHYSICS, ISBN 0-7195-7669-5, John Murray Pub.Ltd.,London, 2000. Bill W. Tillery: PHYSICAL SCIENCE, ISBN 0-697-35803-8, McGraw-Hill Com. Inc., London, 1999.
Exercise type:	F. W. Sears, M. W. Zemansky, H. D. Young: UNIVERSITY PHYSICS, ISBN 0-201-06683, Addison-Weley, Reading 1987. P.Kulišić: Mehanika i toplina, Školska knjiga, Zagreb, 1991.
audio practice seminars	

Knowledge verification:	***Supplement literature:***
writing exam oral exam	Douglas C. Giancoli : Physics for scientists and engineeres with modern physics, (ISBN 0130215171) Prentice Hall, 2000.

Precondition for testing:	

Subject content:

Physical methods. Classical mechanics. Newton's laws of motion aplication. Work, power, energy. Conservation laws. Dynamics of a point mass and a rigid body. Mechanical and physical properties of materials. Fluid mechanics. Vibration and wave motion. Sound and ultrasound. Molecular-kinetic theory of material. Basis of geometric and physical optics. Optical instruments.

Development of common and specific competences:

The objective of the course is to acquire a basic knowledge for other techical courses deal with the structures and physical properties of materials during technological processes.

	Course:	Physics II
Teacher in charge:	***Course summary:***	4 (2+2+0)
Cerovec Milan	***ECTS:***	5
	Course type:	optional basis
	Course is preformed:	
	Name of study:	TOOT
	Module:	TTM, TTK, OT, OBT
	Study:	
	Term:	2nd term

Lecture type:	***Literature necessary for course:***
lectures practice	T. Duncan: Advanced PHYSICS, ISBN 0-7195-7669-5, John Murray Pub.Ltd.,London, 2000. Bill W. Tillery: PHYSICAL SCIENCE, ISBN 0-697-35803-8, McGraw-Hill Com. Inc., London, 1999.
Exercise type:	F. W. Sears, M. W. Zemansky, H. D. Young: UNIVERSITY PHYSICS, ISBN 0-201-06683, Addison-Weley, Reading 1987. P.Kulišić, V.Lopac Elektromagnetske pojave i struktura tvari, Školska knjiga, Zagreb, 1991.
seminars	

Knowledge verification:	***Supplement literature:***
writing exam oral exam	Douglas C. Giancoli : Physics for scientists and engineeres with modern physics, (ISBN 0130215171) Prentice Hall, 2000.

Precondition for testing:	

Subject content:

Electrical and magnetic properties of materials. Conductors and dielectrics. Electric current in solid conductors. Electrical networks. Ionic conductivity. Influence of the magnetic field on electrized materials. Electromagnetic suctions. Induced current. Principles of electrical motors. Alternating currents. Electronic structure of materials. Semiconductors. Integrated circuits. Radiation: natural and artificial. Radioactivity. Risk and radiation protection.

Development of common and specific competences:

The objective of the course is to acquire a basic knowledge for other techical courses deal with the structures and physical properties of materials during technological processes.

	Course:	Physical-mechanical textile testing
Teacher in charge: Friščić Vera	***Course summary:*** ***ECTS:*** ***Course type:*** ***Course is preformed:*** *Name of study:* *Module:* *Study:* *Term:*	5(2+3+0) 5 mandatory basis TOOT TTM 6th term
Lecture type: lectures practice	***Literature necessary for course:*** Čunko R.: Ispitivanje tekstila, Sveučilište u Zagrebu, TTF Zagreb, 1995.	
Exercise type: laboratory practice		
Knowledge verification: preliminary exam writing exam oral exam	***Supplement literature:*** HRN standards ISO standards	
Precondition for testing: Finished and passed laboratory practice		

Subject content:

Concept, textiles assurance and evaluation. Textile preparation for testing, testing methods with tendence on physical-mechanical testing.

Development of common and specific competences:

Introducing with standards appliance, method selection and correct interpretation of results.

	Course:	Practical Training DO
Teacher in charge:	***Course summary:***	10 (0+9+1)
Rogale Snježana	***ECTS:***	10
	Course type:	mandatory tight discipline
	Course is preformed:	
	Name of study:	TOOT
	Module:	DO
	Study:	
	Term:	5th term

Lecture type:	***Literature necessary for course:***
practice	1. D Novina: Tehnologija industrijske proizvodnje obuće I,II,III i IV, Zagreb, 1983.

Exercise type:	
workshops	

Knowledge verification:	***Supplement literature:***
preliminary exam	

Precondition for testing:	

Subject content:

Production preparation. Model preparation for manufacturing, documentary, normatives. Technological processes of footwear manufacturing. Footwear parts cutting in cutting room and sewing in sewing room. Composing procedures and finishing of cut parts.

Development of common and specific competences:

	Course:	Practical Training in Construction Preparation
Teacher in charge:	***Course summary:***	10 (0+9+1)
Koren Tomislav	***ECTS:***	10
	Course type:	optional tight discipline
	Course is preformed:	
	Name of study:	TOOT
	Module:	OT
	Study:	
	Term:	
Lecture type:	***Literature necessary for course:***	
practice	Knez B.: Tehnooški procesi proizvodnje odjeće, udžbenik Sveučilišta u Zagrebu, Zagreb, 1994. Rogale D, Polanović S.: Računalni sustavi konstrukcijske pripreme u odjevnoj industriji, TTF Zagreb, 1996.	
Exercise type:		
workshops		
Knowledge verification:	***Supplement literature:***	
preliminary exam	Article selection from home and international professional periodics.	
Precondition for testing:		
Practice registar		

Subject content:

Basic cut construction of actual garments for basic woven, construction of cutting parts for lining, interlining, pocketing etc. Basic cut grading, cutting pattern development, material consumption analysis. Basic cut digitalization, modification and grading with application of computer, computer cutting pattern drafting.

Development of common and specific competences:

Practical performance of construction preparation enables students beforehand and secure tasks fulfilment that prerequisites modern and economical cloth production.

	Course:	Practical Training in Footwear Production
Teacher in charge:	***Course summary:***	10 (o+8+2)
Rogale Snježana	***ECTS:***	10
	Course type:	optional tight discipline
	Course is preformed:	
	Name of study:	TOOT
	Module:	DO
	Study:	
	Term:	

Lecture type:	***Literature necessary for course:***
practice	1. D. Novina: Tehnologija industrijske proizvodnje obuće I, II, III, IV, Zagreb, 1983.

Exercise type:	
workshops	

Knowledge verification:	***Supplement literature:***
preliminary exam	

Precondition for testing:	

Subject content:

Gaining knowledge and skills in footwear production using different technological procedures (cemented, flexible,california, injected…). Producing and treating footwear parts in cutting room and preparing parts for assembling in cutting and sewing room. Assembling shoes by sewing. Footwear finishing. Optimising the technological procedures of footwear production and production of several footwear articles at the same time. Control of normatives of materials, production time and finished products.

Development of common and specific competences:

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	Course:	Practical Training in Knitting
Teacher in charge:	***Course summary:***	5 (0+4+1)
Vrljičak Zlatko	***ECTS:***	5
	Course type:	optional tight discipline
	Course is preformed:	
	Name of study:	TOOT
	Module:	TTM
	Study:	
	Term:	

Lecture type:	***Literature necessary for course:***
practice seminars	Špencer D.J.: Knitting, pergamon Press, London. Grupa autora: Tekstilni priručnik, Tekstilni inštitut, Maribor.

Exercise type:	Weber P.K., M. Weber: Wirkerei und Strickerei, Deutsche Fachverlag GmbH, Frankfurt am Mein, 2004.
workshops seminars	

Knowledge verification:	***Supplement literature:***
preliminary exam	Offermann P., H. Tausch Marton: Grundlagen der Maschenwaren technologie, Leipzig, 1978. www.gesamttextil.de

Precondition for testing:	Special materials from equipment manufacturers.
Passed exam from Knitting technology and regular practice attendance.	

Subject content:

Raw material entry control. Working order writting and reading for production. Making jersey and warp knittings. Techniques of knitted fabric designing. Machine elements role, adjustment and influence on appearance and properties of knits. Patterning possibilities and limitations. Possible defects and defect renouncing. Electrical machine programing and machine information system utilities. Safety measures providing to insure knits quality. Organization of machine maintenancening and working places.

Development of common and specific competences:

Independent work on knitting machine, adjusment and machine programming. Based on acquirements, student is capable of running technological process of knitting with all necessary forecasts.

	Course:	Practical Training OBT
Teacher in charge:	***Course summary:***	10(0+9+1)
Koren Tomislav	***ECTS:***	10
	Course type:	mandatory tight discipline
	Course is preformed:	
	Name of study:	TOOT
	Module:	OBT
	Study:	
	Term:	5th term

Lecture type:	***Literature necessary for course:***
practice	1. D Novina: Tehnologija industrijske proizvodnje obuće I,II,III i IV, Zagreb, 1983.

Exercise type:	
workshops	

Knowledge verification:	***Supplement literature:***
preliminary exam	

Precondition for testing:	

Subject content:

Production preparation. Model preparation for manufacturing, documentary, normatives. Technological processes of footwear manufacturing. Footwear parts cutting in cutting room and sewing in sewing room. Composing procedures and finishing of cutted parts.

Development of common and specific competences:

	Course:	Practical Training OT
Teacher in charge:	***Course summary:***	10 (0+9+1)
Koren Tomislav	***ECTS:***	10
	Course type:	mandatory tight discipline
	Course is preformed:	
	Name of study:	TOOT
	Module:	OT, OBT
	Study:	
	Term:	5th term

Lecture type:	***Literature necessary for course:***
practice	Knez B.: Tehnooški procesi proizvodnje odjeće, udžbenik Sveučilišta u Zagrebu, Zagreb, 1994. Rogale D. i sur.: Tehnologija proizvodnje odjeće sa studijem rada, Mašinski fakultet Univerziteta u Bihaću, 1999.
Exercise type:	
workshops	
Knowledge verification:	***Supplement literature:***
preliminary exam	Article selection from home and international professional periodics. Technical informations made by machine manufacturer.
Precondition for testing:	

Subject content:

Technological process of cloth cutting; practical work in cutting layers spreading, cutting layers cutting, marking and notching, completing packages and frontal fixation. Technological process of cloth sewing; practical performance of technological sewing operation of actual product on high speed sewing machines and special sewing machines, sewing automats and sewing aggregates as well as ironing in sewing process. Process controling procedures. Technological process of cloth finishing; performance of technological ironing operation of actual products on avalable devices. Additional ironing and other finishing procedures. Final control.

Development of common and specific competences:

Practical performance of typical technological operations for the purpose of acquiring knowledge for method and production technique applications in cloth production processes. Adopting knowledge of practical tasks develop feeling of satisfaction with work. See interreaction between practical knowledge and the other technological disciplines.

	Course:	Practical Training in Preparation of Footwear Production
Teacher in charge:	***Course summary:***	10 (0+8+2)
Rogale Snježana	***ECTS:***	10
	Course type:	optional tight discipline
	Course is preformed:	
	Name of study:	TOOT
	Module:	DO, OBT
	Study:	
	Term:	

Lecture type:	***Literature necessary for course:***
practice	1. D Novina: Tehnologija industrijske proizvodnje obuće I,II,III i IV, Zagreb, 1983.

Exercise type:	
workshops	

Knowledge verification:	***Supplement literature:***
preliminary exam	

Precondition for testing:	

Subject content:

Acquiring required knowledge and practice for efficient production preparation. Acquiring procedures for production model preparation accompanied by technical, operational and instruction sheet for footwear production. Normatives determining for material and manufacturing run-time. Producing material balances. Planning of the technological manufacturing process.

Development of common and specific competences:

	Course:	Pract.Train.in Technol.a.Operative Preparation
Teacher in charge:	***Course summary:***	10(0+9+1)
Koren Tomislav	***ECTS:***	10
	Course type:	optional tight discipline
	Course is preformed:	
	Name of study:	TOOT
	Module:	OT
	Study:	
	Term:	

Lecture type:	***Literature necessary for course:***
practice	Knez B.: Tehnooški procesi proizvodnje odjeće, udžbenik Sveučilišta u Zagrebu, Zagreb, 1994. Rogale D. i sur.: Tehnologija proizvodnje odjeće sa studijem rada, Mašinski fakultet Univerziteta u Bihaću, 1999.
Exercise type:	
workshops	

Knowledge verification:	***Supplement literature:***
preliminary exam	Article selection from home and international professional periodics.

Precondition for testing:	
Practice registar	

Subject content:

Technological preparation; plan performances for technological operation, assembly plans for actual products. Plan performance for data calculation and technological processes as well as lay out. Operative preparation; production capacity calculation, planning of cuttin material, production monitoring, calculation performance, material bilances for actual garments.

Development of common and specific competences:

Practical performance of technological and operative preparation enables students beforehand and secure tasks fulfilment that prerequisites for modern and high productive and high quality clothing production.

	Course:	Practical Training in Textile Dyeing
Teacher in charge:	***Course summary:***	5(0+4+1)
Dugan Ljerka	***ECTS:***	5
	Course type:	optional tight discipline
	Course is preformed:	
	Name of study:	TOOT
	Module:	TTK
	Study:	
	Term:	6th term

Lecture type:	***Literature necessary for course:***
practice seminars	Parac Osterman Đ.: Osnove bojadisanja i tiska, interna skripta TTF, Zagreb, 2002. Parac Osterman Đ., Lj. Dugan: Vježbe iz tehnologije bojadisanja, interna skripta, TTF, Zagreb, 2002.

Exercise type:	
laboratory practice workshops seminars	

Knowledge verification:	***Supplement literature:***
oral exam	www.gesamttextil.de

Precondition for testing:	
Passed exam from Textile printing and regular laboratory practice attendance.	

Subject content:

Various patterning possibilities. Application of novel printing tehniques for various textile materials. Safety work conditions and protection.

Development of common and specific competences:

Qualification for process managing.

	Course:	Practical Training in Textile Finishing
Teacher in charge: Hainš Nada	***Course summary:*** ***ECTS:*** ***Course type:*** ***Course is preformed:*** *Name of study:* *Module:* *Study:* *Term:*	5(0+4+1) 5 optional tight discipline TOOT TTK 6th term
Lecture type: practice seminars	***Literature necessary for course:*** Soljačić I., D. Katović, A.M. Grancarić:Osnove oplemenjivanja tekstila, Kjinga I, Sveučilište u Zagrebu, Zagreb 1992. Grancarić A.G., Soljačić I., D. Katović:Osnove oplemenjivanja tekstila, Kjinga II, Sveučilište u Zagrebu, Zagreb 1994.	
Exercise type: laboratory practice workshops seminars	Soljačić I., A.M. Grancarić:Vježbe iz procesa tekstilne dorade, Sveučilište u Zagrebu, Liber, Zagreb 1989.	
Knowledge verification: oral exam	***Supplement literature:*** Peter M., H.K. Routte, Grundlagen der Textilveredlung, Deutcher Fachverlag GmbH, Frankfurt 1989. Leksikon für Textilveredlung, Laumann-Verlag Dülmen 1995.	
Precondition for testing:	Vigo T.L., Textile Processing and Properties, Textile Science abd Technology, Volume 11, Elsevier Sci. Ltd. Oxford, New York 1994. Člananci u časopisu Tekstil.	
Subject content:		
Particepating in processes of textile finishing in textile plants, practical work in chemical laboratory.		
Development of common and specific competences:		
Students are capable of independent conducting technological prosesses of textile finishing.		

	Course:	Practical Training in Textile Pretreatment
Teacher in charge: Hainš Nada	***Course summary:*** ***ECTS:*** ***Course type:*** ***Course is preformed:*** *Name of study:* *Module:* *Study:* *Term:*	5(0+4+1) 5 optional tight discipline TOOT TTK 6th term
Lecture type: practice seminars	***Literature necessary for course:*** Soljačić I., D. Katović, A.M. Grancarić:Osnove oplemenjivanja tekstila, Kjinga I, Sveučilište u Zagrebu, Zagreb 1992. Soljačić I., A.M. Grancarić:Vježbe iz procesa tekstilne dorade, Sveučilište u Zagrebu, Liber, Zagreb 1989.	
Exercise type: laboratory practice workshops seminars		
Knowledge verification: oral exam	***Supplement literature:*** Peter M., H.K. Routte, Grundlagen der Textilveredlung, Deutcher Fachverlag GmbH, Frankfurt 1989. Leksikon für Textilveredlung, Laumann-Verlag Dülmen 1995.	
Precondition for testing: Completed course in Textile Pretreatment and regular attendance.	Vigo T.L., Textile Processing and Properties, Textile Science abd Technology, Volume 11, Elsevier Sci. Ltd. Oxford, New York 1994. Člananci u časopisu Tekstil.	
Subject content: Participating in textile pretreatment processes in textile plants. Pretreatment practise in laboratories.		
Development of common and specific competences: Students can conduct technological processes independently.		

	Course:	Practical Training in Textile Printing
Teacher in charge:	***Course summary:***	5(0+4+1)
Dugan Ljerka	***ECTS:***	5
	Course type:	optional tight discipline
	Course is preformed:	
	Name of study:	TOOT
	Module:	TTK
	Study:	
	Term:	6th term

Lecture type:	***Literature necessary for course:***
practice seminars	Parac Osterman Đ.: Osnove bojadisanja i tiska , interna skripta, TTF, Zagreb, 2002,

Exercise type:	
laboratory practice workshops seminars	

Knowledge verification:	***Supplement literature:***
oral exam	

Precondition for testing:	
Passed exam in Dyeing technology and regular laboratory practice attendance.	

Subject content:

Dyeing tehniques, dyeing process performance in textile plants and laboratories. Safety work conditions and protection.

Development of common and specific competences:

Qualification for process managing.

	Course:	Practical Training in Weaving
Teacher in charge: Hađina Josip Strmečki Valent	***Course summary:*** ***ECTS:*** ***Course type:*** ***Course is preformed:*** *Name of study:* *Module:* *Study:* *Term:*	5 (0+5+0) 5 optional tight discipline TOOT TTM

Lecture type:	***Literature necessary for course:***
practice seminars	Špencer D.J.: Knitting, pergamon Press, London. Grupa autora: Tekstilni priručnik, Tekstilni inštitut, Maribor.

Exercise type:	Weber P.K., M. Weber: Wirkerei und Strickerei, Deutsche Fachverlag GmbH, Frankfurt am Mein, 2004.
workshops seminars	

Knowledge verification:	***Supplement literature:***
preliminary exam	Offermann P., H. Tausch Marton: Grundlagen der Maschenwaren technologie, Leipzig, 1978. www.gesamttextil.de

Precondition for testing:	Stručna literatura proizvođača opreme.
Passed exam from Weaving technology and regular practice attendance.	

Subject content:

Raw material entry control. Working order writting and reading. Prevailing in working with preparation and weaving machinery. Thread tension. Equipment and its alignment. Possible missfunctions and its rejections. Technical posibilities and limitations in pattern making. Electrical loom programing and machine information system usage. Woven fabric quality assurance. Organization of working place and machinery maintenance.

Development of common and specific competences:

Student accomplishing knowledge in total technological process managing. Based on acquirements, student is capable of running technological process of weaving high quality fabrics with all necessary forecasts.

	Course:	Practical Training TTK
Teacher in charge: Dugan Ljerka Hainš Nada	***Course summary:*** ***ECTS:*** ***Course type:*** ***Course is preformed:*** *Name of study:* *Module:* *Study:* *Term:*	10(0+9+1) 11 mandatory tight discipline TOOT TTK 5th term

Lecture type:	***Literature necessary for course:***
practice seminars	Parac Osterman Đ.: Osnove bojadisanja i tiska, interna skripta, TTF, Zagreb, 2002. Parac Osterman Đ., Lj. Dugan: Vježbe iz bojadisanja tekstila, interna skripta TTF, Zagreb, 2002.
Exercise type:	Grancarić A. M., I Soljačić, D. Katović: Osnove oplemenjivanja tekstila, Knjiga II, Sveučilište u Zagrebu, Zagreb, 1994.
laboratory practice workshops	
Knowledge verification:	***Supplement literature:***
oral exam	Reutte H.K.: Lexikon für Textilverendlung , Laumann- Verlag-Dülmen, 11995.
Precondition for testing:	
Regular attendance of laboratory practice and workshops	

Subject content:

Material preparation for textile finishing processes (dyeing, finishing, printing). Safety work conditions and protection.

Development of common and specific competences:

Qualification for managing of textile finishing production process.

	Course:	Practical Training TTM
Teacher in charge:	***Course summary:***	10(0+9+1)
	ECTS:	10
Strmečki Valent	***Course type:***	mandatory basis
	Course is preformed:	
	Name of study:	TOOT
	Module:	TTM
	Study:	
	Term:	5th term

Lecture type:	***Literature necessary for course:***
practice seminars	McCreight D.J., W. Feil, J.H. Booterbaugh, E.E. Backe: Short staple yarn manufacturing. Woodhead Publishing, 1999. Kovačević S., K. Dimitrovski, J. Hađina.: Procesi tkanja, Tekstilno-tehnološki fakultet, Zagreb (udžbenik u tisku).
Exercise type:	Weber P. K., M. Weber: Wirkerei und Strickerei, Deutsche Fachverlag GmbH, Frankfurt am Mein, 2004.
workshops seminars	

Knowledge verification:	***Supplement literature:***
writing exam oral exam	Special materials from equipment manufacturers. Various articles from textile magazines.

Precondition for testing:	
Regular practice attendance	

Subject content:

Raw material storage, take over and verification. Blends, air condition. Safety work conditions. Yarn production technology. Influence of machinery and equipment on quality and quantity of production. Plying, steaming, warping, sizing and warp draw-in process. Safety measures during weaving, loom managing. Main devices, adjustment. Loom setting. Defect, defect renouncing. Working order. Safety work on knitting machines. Knitting machine gauge and types. Main devices, adjucement and influence on quality. Thread tension, pattern possibility. Calculations. Information systems on machines. Non-woven textile and haberdashery technology.

Development of common and specific competences:

Student gets theoretical and practical knowledge about linear and plain textile fabric production. He is capable of managing textile machines and further internship refinement.

	Course:	Pretreatment of Textile Finishing
Teacher in charge: Hainš Nada	***Course summary:*** ***ECTS:*** ***Course type:*** ***Course is preformed:*** *Name of study:* *Module:* *Study:* *Term:*	4(2+2+0) 5 mandatory tight discipline TOOT TTK 3rd term
Lecture type: lectures practice	***Literature necessary for course:*** Soljačić I., D. Katović, A.M. Grancarić:Osnove oplemenjivanja tekstila, Kjinga I, Sveučilište u Zagrebu, Zagreb 1992. Soljačić I., A.M. Grancarić:Vježbe iz procesa tekstilne dorade, Sveučilište u Zagrebu, Liber, Zagreb 1989.	
Exercise type: laboratory practice		
Knowledge verification: preliminary exam writing exam oral exam	***Supplement literature:*** Peter M., H.K. Routte, Grundlagen der Textilveredlung, Deutcher Fachverlag GmbH, Frankfurt 1989. Leksikon für Textilveredlung, Laumann-Verlag Dülmen 1995.	
Precondition for testing: Completed preliminary exam in laboratory practice	Vigo T.L., Textile Processing and Properties, Textile Science abd Technology, Volume 11, Elsevier Sci. Ltd. Oxford, New York 1994. Articles in Textile magazine.	

Subject content:

Introducing to prefinishing processes. Surface active agents. Processes, devices and basic elements in wet finishing. Cotton prefinishing, singeing and desizing, boiling, bleaching and optical bleaching. Procedures and defects control in textile bleaching. Mercerization. Protein fibres prefinishing. Wool washing and carbonization. Silk degumming and bleaching. Synthetic materials prefinishing, washing and bleaching.

Development of common and specific competences:

Students are accomplishing practical knowledge in the field of textile prefinishing and they are trained for procedure managing.

	Course:	Quality Management
Teacher in charge:	***Course summary:***	5(2+3+0)
Antoaneta Tomljenović	***ECTS:***	5
	Course type:	mandatory basis
	Course is preformed:	
	Name of study:	TOOT
	Module:	DO, OBT
pregraduation	*Study:*	
	Term:	6th term

Lecture type:	***Literature necessary for course:***
lectures practice	Bakija I.: Osiguranje kvalitete po ISO 9000, Zagreb, 1990. HRN EN ISO 9000: 2008, 9001: 2002, 9004: 2003

Exercise type:	
audio practice	

Knowledge verification:	***Supplement literature:***
preliminary exam	Oakland J. S.: Total Quality Management, Heinemann Publ, 1990.

Precondition for testing:	
Completed laboratory practice	

Subject content:

Defining of quality terms, quality assurance, quality management system, quality management, quality control, quality audit.
Explanation of quality management system. Advantages of quality management system. Differences between standards HRN ISO 9000, 9001, 9002, 9004. Explanation of certain standards on examples with stress laid upon HRN EN ISO 9001: 2002.

Development of common and specific competences:

Introducing with quality management systems and their application.

	Course:	Spinning Practice
Teacher in charge:	***Course summary:***	5 (0+4+1)
Skenderi Zenun	***ECTS:***	5
	Course type:	optional tight discipline
	Course is preformed:	
	Name of study:	TOOT
	Module:	TTM
	Study:	
	Term:	

Lecture type:	***Literature necessary for course:***
	McCreight D. J., R. W. Feil, J. H. Booterbaugh, E. E. Backe: Short staple yarn manufacturing, Woodhead Publishing Limited, 1999 Nikolić M. I Perić P.: Teorija in tehnologija predenja, Univerza v Ljubljani, Ljubljana., 1990
Exercise type:	Simpson W.S. And G.H.Crawshaw: Wool: Science and technology, Woodhead Publishing limited, Cambridge, 2002
audio practice workshops laboratory practice seminars	

Knowledge verification:	***Supplement literature:***
preliminary exam	Papers from magazine Tekstil, HIST

Precondition for testing:	
Regular attendance of lectures and practice	

Subject content:

Practical work on different machines for yarn making from staple fibres. Technical and technological calculation of spinning and plying machine. Plying machine. Routes of different spun yarn making. Practical work on plying machine.

Development of common and specific competences:

Students obtain theoretical and practical knowledge of certain yarn production spun from long and short staple fibres.

	Course:	Spinning Technology I
Teacher in charge:	***Course summary:***	3 (2+1+0)
Skenderi Zenun	***ECTS:***	5
	Course type:	mandatory tight discipline
	Course is preformed:	
	Name of study:	TOOT
	Module:	TTM
	Study:	
	Term:	3rd term

Lecture type:	***Literature necessary for course:***
lectures	Nikolić M. I Perić P.: Teorija in tehnologija predenja, Univerza v Ljubljani, Ljubljana., 1990 McCreight D. J., R. W. Feil, J. H. Booterbaugh, E. E. Backe: Short staple yarn manufacturing, Woodhead Publishing Limited, 1999

Exercise type:	
audio practice workshops laboratory practice	

Knowledge verification:	***Supplement literature:***
writing exam	Papers from magazine Tekstil, HIST

Precondition for testing:	
Regular attendance of lectures and practice	

Subject content:

Short staple fibres for spun yarn making. Routes of spun yarn manufacturing from natural and/or man-made staple fibres. Fibre preparation. Carding. Combing preparation. Combing, drawing, roving and ring spinning. Structure and properties of spun yarns made from short staple fibres.

Development of common and specific competences:

The aim of the course is to transfer the knowledge related to basic routes of spun yarn production from cotton, man-made staple fibres, their blands, as well as working principles of machines.

	Course:	Spinning Technology II
Teacher in charge: Skenderi Zenun	***Course summary:*** ***ECTS:*** ***Course type:*** ***Course is preformed:*** *Name of study:* *Module:* *Study:* *Term:*	7 (3+4+0) 8 mandatory tight discipline TOOT TTM 4th term
Lecture type: lectures	***Literature necessary for course:*** Simpson W.S. And G.H.Crawshaw: Wool: Science and technology, Woodhead Publishing limited, Cambridge, 2002 Nikolić M. I Perić P.: Teorija in tehnologija predenja, Univerza v Ljubljani, Ljubljana., 1990	
Exercise type: audio practice workshops laboratory practice		
Knowledge verification: writing exam	***Supplement literature:*** Papers from magazine Tekstil, HIST	
Precondition for testing: Regular attendance of lectures and practice		
Subject content: Long staple fibres for spun yarn making. Routes spun yarn making from natural and/or man-made long staple fibres. Fibre preparation. Carding. Drawing. Combing. Top praparing and coloring. Roving and ring spinning. Yarn steaming. New spinning systems. Winding and yarn clearing. Plying. Quality yarn parameters.		
Development of common and specific competences: The aim of the course is to transfer the knowledge related to spinning of long staple fibres, the basic principles of machine running, quality of single, plyed and cabled ring, rotor, wraped, aerodynamic and friction yarn.		

	Course:	Statistics
Teacher in charge:	***Course summary:***	4 (2+1+1)
	ECTS:	5
	Course type:	mandatory commonly educational
	Course is preformed:	
Božičević Mladen	*Name of study:*	TOOT
	Module:	TTM, TTK, OT
	Study:	
	Term:	3rd term

Lecture type:	***Literature necessary for course:***
lectures practice seminars	1. Ž. Pauše, Uvod u matematičku statistiku, Školska knjiga, Zagreb, 1993 2. I. Pavlić, Statistička teorija i primjena, tehnička knjiga, Zagreb,1985.

Exercise type:	
audio practice laboratory practice seminars	

Knowledge verification:	***Supplement literature:***
preliminary exam oral exam	www.davidmlane.com/hyperstat www.statsoft.com/textbook

Precondition for testing:	

Subject content:

Descriptive statistics.Probability distributins. Confidence intervals.Estimating the parameters.Testing statistical hypotheses.

Development of common and specific competences:

The aim of this program is to serve as a base to apply statistics in engineering and technology.

	Course:	Structure and Properties of Materials
Teacher in charge:	***Course summary:***	2 (1+1+0)
Grancarić Ana-Marija	***ECTS:***	3
	Course type:	mandatory tight discipline
	Course is preformed:	
	Name of study:	TOOT
	Module:	OBT
	Study:	
	Term:	4th term

Lecture type:	***Literature necessary for course:***
lectures practice	Williams H. L.: Polymere Engineering, Elsevier Sci. Publ. Comp. NewYork 1985. D. H. Murton - Johnes and J. W. Ellis: Polymere products, Design Materials and Processing, New York, 1986.

Exercise type:	
audio practice	

Knowledge verification:	***Supplement literature:***
preliminary exam	

Precondition for testing:	

Subject content:

Material structure. Dependence between structure and material properties. Material stability and aging in manufacturing and application. Material forming in manufacturing.

Development of common and specific competences:

Material selection in according to application and manufacturing.

	Course:	Structure and Properties of Materials
Teacher in charge:	***Course summary:***	3 (2+1+0)
Grancarić Ana-Marija	***ECTS:***	4
	Course type:	mandatory tight discipline
	Course is preformed:	
	Name of study:	TOOT
	Module:	DO
	Study:	
	Term:	4th term

Lecture type:	***Literature necessary for course:***
lectures practice	Williams H. L.: Polymere Engineering, Elsevier Sci. Publ. Comp. NewYork 1985. D. H. Murton - Johnes and J. W. Ellis: Polymere products, Design Materials and Processing, New York, 1986.
Exercise type:	
audio practice	
Knowledge verification:	***Supplement literature:***
preliminary exam	
Precondition for testing:	

Subject content:

Material structure as the result of the choice of raw materials and production process. Dependence between structure and material properties. Static and dynamic structure. Mechanical performance of materials. Material stability and aging in manufacturing and application. Environmentally safe materials. Natural and synthetic polymers. Material forming in manufacturing process. Characterising of the structure of chosen materials.

Development of common and specific competences:

Material selection according to application and manufacturing.

	Course:	Technical Preparation in Clothing Production
Teacher in charge: Koren Tomislav	***Course summary:*** ***ECTS:*** ***Course type:*** ***Course is preformed:*** *Name of study:* *Module:* *Study:* *Term:*	5(2+3+0) 6 mandatory tight discipline TOOT OT 3rd term
Lecture type: lectures practice	***Literature necessary for course:*** Knez B.: Tehnooški procesi proizvodnje odjeće, udžbenik Sveučilišta u Zagrebu, Zagreb, 1994. Rogale D. i sur.: Tehnologija proizvodnje odjeće sa studijem rada, Mašinski fakultet Univerziteta u Bihaću, 1999.	
Exercise type: audio practice		
Knowledge verification: writing exam oral exam	***Supplement literature:*** Article selection from home and international professional periodics.	
Precondition for testing: Seminar		

Subject content:

Garment clasification based on clothing types and technological phases of production. HRN and ISO standards in clothing production. Technological preparation in clothing industry; clothing performance analysis,planning of technological operations, assembly planning. Planning of technological precesses in clothing industry. Systems of technological processes, work place embedding and interphase transporting. Lay out. Operative preparation in clothing industry; production planning and microplanning, production capacity calculation, production monitoring, calculation and material bilance for a piece of clothing. Terminology in clothing industry.

Development of common and specific competences:

With understanding of clothing structure and of the content of technological and operative preparation, students aquire solid base for successful performance of technological documentation that is necessary for unprecedented flow of technological processes of cutting, sewing and finishing. They are also prepared for rationl planning and material use. Obtained knowledge allows further education.

	Course:	Technological Process of Sewing
Teacher in charge: Koren Tomislav	***Course summary:*** ***ECTS:*** ***Course type:*** ***Course is preformed:*** *Name of study:* *Module:* *Study:* *Term:*	5(2+3+0) 6 mandatory tight discipline TOOT OT 5th term
Lecture type: lectures practice	***Literature necessary for course:*** Knez B.: Tehnooški procesi proizvodnje odjeće, udžbenik Sveučilišta u Zagrebu, Zagreb, 1994. Rogale D. i sur.: Tehnologija proizvodnje odjeće sa studijem rada, Mašinski fakultet Univerziteta u Bihaću, 1999.	
Exercise type: audio practice workshops		
Knowledge verification: writing exam oral exam	***Supplement literature:*** Article selection from home and international professional periodics. Krowatschek F. u.a.: Der Naehevorgang als kybernetisches system, Forschungsgemeinschaft Bekleidungsindustrie E. V. Berlin	
Precondition for testing: Seminar. Passed exam from Technical preparation of clot production.		

Subject content:

Sewing stitches and seam standards. Use of universal and special sewing machines, sewing automates, aggregates, NC led sewing machine and sewing robots. Ironing in sewing phase, work place modeling, the structure of technological operations in clothing production processes. Machine efficiency, workers efficiency and machine usage factor. Clothing sewing procedures of velvet and plash fabricss, knittings, artificial and natural leather. Control in the process of clothes sewing. Practical handling with high speed sewing and special sewing machines and sewing automates. Methods of operational subject management, technological procedures of sewing of clothing elements and underclothing performance.

Development of common and specific competences:

Students are propared to solve particular tasks in professional clothing production independently. Aquired knowledge is relevant for further education or succesful plant managing, for managing of production lines of cloth sewing and for control in cloth sewing process. Also, they can fulfil requirements for a self-contractor in clothing production. With optimisation of production capacities and technical-technological parameters, they can achieve rationalization and humanisation of work in clothing industry.

	Course:	Testing of Textiles and Clothing
Teacher in charge:	***Course summary:***	5(2+3+0)
Friščić Vera	***ECTS:***	5
	Course type:	mandatory basis
	Course is preformed:	
	Name of study:	TOOT
	Module:	OT
	Study:	
	Term:	6th term

Lecture type:	***Literature necessary for course:***
lectures practice	Čunko R.: Ispitivanje tekstila, Sveučilište u Zagrebu, TTF Zagreb, 1995.

Exercise type:	
laboratory practice	

Knowledge verification:	***Supplement literature:***
preliminary exam writing exam oral exam	HRN standards ISO standards

Precondition for testing:	
Finished and passed laboratory practice	

Subject content:

Concept, assurance and evaluation of textile quality. Textile preparation for testing, testing methods, Mechanical-chemical textile testings. Emphasis on usage properties of textiles used for clothing.

Development of common and specific competences:

Students get familiar with standard application, testing and textile quality assessment.

	Course:	Textile & Enviroment Protection
Teacher in charge:	***Course summary:***	3 (1 +2 + 0)
Bischof-Vukušić Sandra	***ECTS:***	3
Katović Drago	***Course type:***	optional tight discipline
	Course is preformed:	
	Name of study:	TOOT
	Module:	TTK
	Study:	
	Term:	

Lecture type:	***Literature necessary for course:***
lectures seminars	I. Soljačić: Osnove oplemenjivanja tekstila Knjiga I. Pripremni procesi strojevi za oplemenjivanje A. M. Grancarić, I. Soljačić, D. Katović: Osnove oplemenjivanja tekstila Knjiga II. Procesi mokre apreture bojadisanja i tiska.
Exercise type:	
seminars	
Knowledge verification:	***Supplement literature:***
preliminary exam	H.K. Rouette : Encyclopedia of Textile Finishing, Springer 2001 Specific articles from "Tekstil" magazine
Precondition for testing:	
seminar paper	

Subject content:

Ecological norms and regulations in textile sector. Development and application of ecologically accepted agents. Selection of environment friendly methods of textile production. Control of: waste water, exhaust air, noise.

Development of common and specific competences:

The course will provide students with knowledge of norms and regulations in enviroment. Students are gaining competence for correct selection of agents and methods to conform standards and obtain lowest environment pollution.

	Course:	TEXTILE CARE PROCESSES
Teacher in charge: Soljačić Ivo Pušić Tanja	***Course summary:*** ***ECTS:*** ***Course type:*** ***Course is preformed:*** *Name of study:* *Module:* *Study:* *Term:*	5 (2+3 +0) 4 mandatory TOOT TTK 6th term
Lecture type: lectures practice	***Literature necessary for course:*** I. Soljačić, T. Pušić: Njega tekstila-I dio, TTF, Zagreb 2005.	
Exercise type: laboratory practice		
Knowledge verification: writing exam oral exam	***Supplement literature:*** Jacobi G., Löhr A.: Detergents and Textile Washing, Henkel KGaA, Düsseldorf 1987. Puchta R., Grünwälder W.: Textilpflege-Waschen und Chemischenreiningen, Schiele & Schön GmbH, Berlin 1973.	
Precondition for testing: exam of lab exercises		

Subject content:

History of textile care processes (Washing, Dry-cleaning, Wet cleaning and Shampooing). Detergents. Transit washers and Batch washers, dryers, ironers and "Finishers" for working wear. Solvents for dry-cleaning, boosters and technology of dry-cleaning. After-treatments. Cleaning of carpets. Possible damages and complaints in texcare. Exercises are laboratory and practical. Primary and secondary effects in washing with detergents in laboratory conditions.

Development of common and specific competences:

Basic knowledge of texcare processes. Good management activities in texcare plants must follow actual legislation.

	Course:	TEXTILE CHEMISTRY
Teacher in charge:	***Course summary:***	4(2+2 +0)
	ECTS:	5
	Course type:	optional basis
	Course is preformed:	
Došen-Šver Dubravka	*Name of study:*	TOOT
	Module:	OT
	Study:	
	Term:	

Lecture type:	***Literature necessary for course:***
lectures	Chang,R.:Chemistry,Mc Graw-Hill,New York 1998. Atkins,P.W.,Clugston,M.J.:Principles of Physical Chemistry,School Book,Zagreb,1992.
Exercise type:	Malone,L.J.:Basic Concept of Chemistry,John Wiley and Sons,Canada,USA,1994.
laboratory practice	Pine,S.H.,Hendricson,J.B. at al:Organic Chemistry,Scool Book, Zagreb,1984.
	Goldberg,D.E.:Fundamentals of Chemistry, Mc Graw-Hill.New York,1998.
Knowledge verification:	***Supplement literature:***
oral exam	

Precondition for testing:	
General Chemistry	

Subject content:

Mixtures and Solutions:Concentration,Hydratation,Solvatation,Strong and Weak Electrolytes.Binary and Ternary Systems:Solid-Liqiud,Liquid-Liquid,Gas-Liquid.Appearance on Surface: Adsorption, Surface Tension,Films.Water in Textile Industry:Hardness,Softening,Wastewaters.Wet in Air and Textile Material.Colloide Chemistry:Hydrophylic and Hydrophobic Sols, Gels, Emulsions, Smokes, Foams, Wetting.Macromolecular Chemistry: Polymers, Copolymers, Carbonhydrates, Polysacharides, Proteins,Lipids.Tenside:Soaps,Sufractants and Detergents.Dyestuffs and Colours:Absorption Light Radiation Laws.Scouring,Bleaching and Coloration of textile Fibres and Materials.

Development of common and specific competences:

Adsorption,wastewaters,textile scouring

	Course:	Textiles Damage Detection
Teacher in charge: Pezelj Emira	***Course summary:*** ***ECTS:*** ***Course type:*** ***Course is preformed:*** *Name of study:* *Module:* *Study:* *Term:*	3 (1+2+0) 3 optional tight discipline TOOT TTK
Lecture type: lectures practice	***Literature necessary for course:*** Karl Mahall: Quality Assessment of Textiles, Damage Detection by Microscopy, Springes, Berlin/Heidelberg, 2003 Karl Mahall: Qualitatsbeurteilung von Textilien,Schiele&schon,Berlin,1989.	
Exercise type: laboratory practice		
Knowledge verification: preliminary exam	***Supplement literature:*** R.Čunko, E.Pezelj: Laboratory Practice for Textile Damage Detection, mimeographed course materials	
Precondition for testing: laboratory practice, preliminary exam		

Subject content:

Testing methodology for all type fibers, yarns, textile fabrics and clothes damages coming during production processes and care processes. Systematization of damage types according reasons and features. Tendency is on type damage labaratory identification applying different methods: damage detection by microscopy, microscopy with specific reagents, determination of degree of polymerisation, “factor” of damage, identification of mechanical damage, changes of strength, solubility and other physical and chemical charactheristics.

Development of common and specific competences:

Mastering with methodology and technics for textile damage testing. Qualified for labaratory analyses.

	Course:	Textile Dyeing Technology
Teacher in charge:	***Course summary:***	5(2+3+0)
Dugan Ljerka	***ECTS:***	6
	Course type:	mandatory tight discipline
	Course is preformed:	
	Name of study:	TOOT
	Module:	TTK
	Study:	
	Term:	4th term

Lecture type:	***Literature necessary for course:***
lectures practice	Džokić, D.: Teorija i tehnologija bojenja tekstilnog materijala, Tehnološko-Metalurški Fakultet, Beograd, 1989. Tanhofer N.:O boji, Sveučilište u Zagrebu, Akademija dramske umjetnosti, Zagreb 2000.
Exercise type:	Đ.Parac-Osterman, Osnove bojadisanja i tiska, interna skripta TTF, Zagrebu, 2002
laboratory practice workshops	Đ.Parac-Osterman, Lj.Dugan, Vježbe iz tehnologija bojadisanja, interna skripta Sveučilišta u Zagrebu, 2002 Zagreb

Knowledge verification:	***Supplement literature:***
preliminary exam writing exam oral exam	Shash, M.S.i sur.: Instrumental Colour Measurments and CA Colour Matching for Textiles, Mahajan Book Dist., India, 1990. Giles: Laboratory Course in Dyeing, Society of Dyers and Colourists, 1989.
Precondition for testing:	Peter, H.K. Rouette: Grundlagen der Textilvetedlung, Deutscher Fachverlag GmbH, Frankfurt, 1989.
None	

Subject content:

Basics of colour chemistry- structure and chromacity, classification, nomenclature. Theory of dyeing, dyeing technics, dyeing process performace, egalisation ability and colour fastness. Cellulose, protein, man made fibres and blends dyeing properties. Temperature, electrolyte and pH value influences on dye bath exhaustion. Dye selection based on substrate composition. Cellulose fibres. Synthetic fibres.

Development of common and specific competences:

Introducing to physico-chemical reaction in textile dyeing and applaying. Possible applications in dye picking.

	Course:	Textile Fibres and Materials
Teacher in charge: Friščić Vera Strmečki Valent	***Course summary:*** ***ECTS:*** ***Course type:*** ***Course is preformed:*** *Name of study:* *Module:* *Study:* *Term:*	6(3+2+1) 6 mandatory basis TOOT OBT 1st term

Lecture type:	***Literature necessary for course:***
lectures lectures practice	Friščić V., B.Vuljanić: Kvalitativna analiza vlakana (skripta TTF), Zagreb, 1994. Čunko R., E. Pezelj: Tekstilni matrijali, Tehničko Veleučilište, Zagreb, 2002.

Exercise type:	
laboratory practice audio practice	

Knowledge verification:	***Supplement literature:***
preliminary exam writing exam oral exam	Hofer A.: Stoffe 1, Deutscher Fachverlag GmbH, Frankfurt am Mein, 1990. Meyer T.: Lexikon Gewebe, Verlagsgruppe Deutscher Fachverlag, Frankfurt am Mein, 1996.

Precondition for testing:	Knjige: http://www.gesamttextil.de
Passed preliminary exam and made textile materials collection.	

Subject content:

Fibre definition and systematization. Natural and man-made fibres classification. Basic properties and purpose. Types, properties, purpose, real and reduced finesness, finesness calculation, sewing thread diameter and marking. Woven and knitted fabrics, haberdashery, non-woven and industrial textile definitions. Names, properties and usage of plain textile in footwearing. Woven and knit width tolerances. Fabric classing, bonifications and market price calculation. Laboratory practice: Major fibres identifications (microscopy and chemical analysis). Audio practice: Textile material names, characteristics, recognition, properties and usage.

Development of common and specific competences:

Student learns types of textile raws materials that are used in footwear industry. He learns their names, properties and usage to become competent in choosing textile material, after its properties, for purposes of footwear industry.

	Course:	Textile Fibres and Materials
Teacher in charge: Friščić Vera Strmečki Valent	***Course summary:*** ***ECTS:*** ***Course type:*** ***Course is preformed:*** *Name of study:* *Module:* *Study:* *Term:*	5(3+2+0) 7 mandatory basis TOOT DO 2st term

Lecture type:	***Literature necessary for course:***
lectures lectures practice	Friščić V., B.Vuljanić: Kvalitativna analiza vlakana (skripta TTF), Zagreb, 1994. Čunko R., E. Pezelj: Tekstilni matrijali, Tehničko Veleučilište, Zagreb, 2002.

Exercise type:	
laboratory practice audio practice	

Knowledge verification:	***Supplement literature:***
preliminary exam writing exam oral exam	Hofer A.: Stoffe 1, Deutscher Fachverlag GmbH, Frankfurt am Mein, 1990. Meyer T.: Lexikon Gewebe, Verlagsgruppe Deutscher Fachverlag, Frankfurt am Mein, 1996.

Precondition for testing:	Knjige: http://www.gesamttextil.de
Passed preliminary exam and made textile materials collection.	

Subject content:

Fibre definition and systematization. Natural and man-made fibres classification. Basic properties and purpose. Types, properties, purpose, real and reduced finesness, finesness calculation, sewing thread diameter and marking. Woven and knitted fabrics, haberdashery, non-woven and industrial textile definitions. Names, properties and usage of plain textile in footwearing. Woven and knit width tolerances. Fabric classing, bonifications and market price calculation. Laboratory practice: Major fibres identifications (microscopy and chemical analysis). Audio practice: Textile material names, characteristics, recognition, properties and usage.

Development of common and specific competences:

Student learns types of textile raws materials that are used in footwear industry. He learns their names, properties and usage to become competent in choosing textile material, after its properties, for purposes of footwear industry.

	Course:	Textile Finishing Operations
Teacher in charge: Hainš Nada	***Course summary:*** ***ECTS:*** ***Course type:*** ***Course is preformed:*** *Name of study:* *Module:* *Study:* *Term:*	4(2+2+0) 5 mandatory tight discipline TOOT TTK 5th term
Lecture type: lectures practice	***Literature necessary for course:*** Soljačić I., D. Katović, A.M. Grancarić:Osnove oplemenjivanja tekstila, Kjinga I, Sveučilište u Zagrebu, Zagreb 1992. Grancarić A.G., Soljačić I., D. Katović:Osnove oplemenjivanja tekstila, Kjinga II, Sveučilište u Zagrebu, Zagreb 1994.	
Exercise type: workshops	Soljačić I., A.M. Grancarić:Vježbe iz procesa tekstilne dorade, Sveučilište u Zagrebu, Liber, Zagreb 1989.	
Knowledge verification: writing exam oral exam	***Supplement literature:*** Peter M., H.K. Routte, Grundlagen der Textilveredlung, Deutcher Fachverlag GmbH, Frankfurt 1989. Leksikon für Textilveredlung, Laumann-Verlag Dülmen 1995.	
Precondition for testing: Finished practice.	Vigo T.L., Textile Processing and Properties, Textile Science abd Technology, Volume 11, Elsevier Sci. Ltd. Oxford, New York 1994. Articles in Textile magazine.	

Subject content:

Distribution of textile operations. Material and bath movement systems. Wet finishing operations; machinery and devices. Calculation of impregnations "dry to wet" and "wet to dry". Mechanical drainage, draining, centrifuge, suction. Thermal drying and thermofixing operations. Heat and agents transfering. Convectional drying, conductional drying, radiation drying, high frequency drying. Dry finishing operations. Textile surface finishing; scorching, trimming, flocking, grinding, calendering, bed and card ironing. Dimensional stability finishing; knittings, cotton and woolen wovens.

Development of common and specific competences:

Students are introduced to textile finishing operations as well as machinery and their functioning.

	Course:	Textile Finishing Technology
Teacher in charge: Hainš Nada	***Course summary:*** ***ECTS:*** ***Course type:*** ***Course is preformed:*** *Name of study:* *Module:* *Study:* *Term:*	4(2+2+0) 5 mandatory tight discipline TOOT TTK 4th term
Lecture type: lectures practice	***Literature necessary for course:*** Soljačić I., D. Katović, A.M. Grancarić:Osnove oplemenjivanja tekstila, Kjinga I, Sveučilište u Zagrebu, Zagreb 1992. Grancarić A.G., Soljačić I., D. Katović:Osnove oplemenjivanja tekstila, Kjinga II, Sveučilište u Zagrebu, Zagreb 1994.	
Exercise type: laboratory practice	Soljačić I., A.M. Grancarić:Vježbe iz procesa tekstilne dorade, Sveučilište u Zagrebu, Liber, Zagreb 1989.	
Knowledge verification: preliminary exam writing exam oral exam	***Supplement literature:*** Peter M., H.K. Routte, Grundlagen der Textilveredlung, Deutcher Fachverlag GmbH, Frankfurt 1989. Leksikon für Textilveredlung, Laumann-Verlag Dülmen 1995.	
Precondition for testing: Passed preliminary exam and exam from Prefinishing processes	Vigo T.L., Textile Processing and Properties, Textile Science abd Technology, Volume 11, Elsevier Sci. Ltd. Oxford, New York 1994. Articles in Textile magazine	

Subject content:

Introducing to finishing. Classic finishing. Antiwrinkling finishing. Water rapellent finishing and oil rapellent finishing. Burning resist finishing. Mould and rot resist finishing. Introducing to wool finishing. Fulling, fixating, crabbing and decating of wool. Wool protection from insects. Dry finishing. Pilling, pilling resist finishing. Covering finish, textile laminating.

Development of common and specific competences:

Students get practical knowledge in the field of textile finishing and they are trained for carrying out textile finishing procedures.

	Course:	Textile Materials
Teacher in charge:	***Course summary:***	6(3+3+0)
Strmečki Valent	***ECTS:***	6
	Course type:	mandatory basis
	Course is preformed:	
	Name of study:	TOOT
	Module:	TTM, TTK, OT
	Study:	
	Term:	2nd term

Lecture type:	***Literature necessary for course:***
lectures practice	Čunko R., E. Pezelj: Tekstilni materijali, Tehničko Veleučilište, Zagreb, 2002.

Exercise type:	
audio practice	

Knowledge verification:	***Supplement literature:***
writing exam oral exam	Hofer A.: Stoffe 1, Deutscher Fachverlag GmbH, Frankfurt am Mein, 1990. Meyer T.: Lexikon Gewebe, ISBN: 3-87150-523-A,Verlagsgruppe Deutscher Fachverlag, Frankfurt am Mein, 1996.

Precondition for testing:	Knjige: http://www.gesamttextil.de
Program	

Subject content:

Linear textile products: Sorts, finesness, properties, usage and marking. Yarn diameter, yarn and ply count calculation, real and reduced finesness. Yarn commercial weight audit considering humidity and finesness. Plain textile fabrics: Woven and knitted fabrics, haberdashery, non-woven and industrial textile definitions. Textile fabric names after: raw material, way of production, knit/weave, yarn/ply type and usage. Face and back of fabric, termed strength, width tolerances. Fabric classing, bonifications and market price calculation. Laces, netting and hole embroidery, interier. Industrial textile, composites, laminates. Textile utensils in clothing industry. Audio practice: Various textile material characteristics, properties, usage and recognition insight.

Development of common and specific competences:

By making his own linear and plain textile materials collection, student develops solidity in textile materials recognition (program). He refines ability to recognize textile material considering it appearance, properties and usage value. With that acquirements student can recognize wide assortment of textile materials, deduce raw material content, usage, properties, names and its usage value that is most important in desinature, procuration and sale service.

	Course:	Textile Printing Technology
Teacher in charge:	***Course summary:***	5(2+3+0)
Dugan Ljerka	***ECTS:***	5
	Course type:	mandatory tight discipline
	Course is preformed:	
	Name of study:	TOOT
	Module:	TTK
	Study:	
	Term:	6th term

Lecture type:	***Literature necessary for course:***
lectures practice	L. Miles; Textile Printing, Merrow Publishing Co. Watford 1971. Đ. Parac-Osterman; Osnove bojadisanja i tiska, Interna skripta TTF, Zagreb 2002.
Exercise type:	
laboratory practice workshops	
Knowledge verification:	***Supplement literature:***
preliminary exam writing exam oral exam	J. Storey; Textile Printing, Thames and Hudson, New York 1992.
Precondition for testing:	
Passed exam in Dyeing technology	

Subject content:

Basics of textile printing, printing methods, finishing. Production of printing screen and engraved rollers (classical, computer and laser method). Selection of dyestuff, thickener and additives. Printing cellulose, protein and synthetic fibres. Pigment printing. Selection and effect mechanism of binding means. Pigment dyestuff. Jet printing. Digital printing. Special methods of printing.

Development of common and specific competences:

Knowledge of printing techniques enables a student full liberty in designing of textiles for ready-made clothes and interiors.

	Course:	Textile Testing
Teacher in charge: Friščić Vera	***Course summary:*** ***ECTS:*** ***Course type:*** ***Course is preformed:*** *Name of study:* *Module:* *Study:* *Term:*	6(2+4+0) 6 mandatory basis TOOT TTK 6th term
Lecture type: lectures practice	***Literature necessary for course:*** Čunko R.: Ispitivanje tekstila, Sveučilište u Zgb., TTF Zgb. 1995.	
Exercise type: laboratory practice		
Knowledge verification: preliminary exam writing exam oral exam	***Supplement literature:*** HRN standards ISO standards	
Precondition for testing: Passed exam in Fibres I and II and Textile materials		
Subject content: Apprehension, assurance and assessment of textile quality. Textile preparation for testing, work methods and mechanical-chemical textile testing.		
Development of common and specific competences: Method selection, testing, textile quality evaluation.		

	Course:	THERMODYNAMICS
Teacher in charge:	***Course summary:***	4 (2+2+0)
	ECTS:	5
Mihelić-Bogdanić Alka	***Course type:***	mandatory basis
	Course is preformed:	
	Name of study:	TOOT
	Module:	TTM,TTK, OT, OBT
	Study:	
	Term:	2nd term

Lecture type:	***Literature necessary for course:***
Lecture type:	R. Budin, A. Mihelić-Bogdanić, Osnove tehničke termodinamike Drugo,dopunjeno i izmijenjeno izdanje,Školska knjiga,Zagreb,2002. A. Galović, Termodinamika I, FSB, Zagreb, 2002.
lectures	
Exercise type:	A. Galović, Termodinamika II, FSB, Zagreb, 2003.
audio practice	G. Rogers, Y. Mayhew, Engineering Thermodynamics,Work&Heat Transfer, Solution Manual Longman, Edinburgh, 1996.

Knowledge verification:	***Supplement literature:***
writing exam oral exam	T. D. Eastop, A. McConkey, Applied Thermodynamisc for Engineering Technologists, Longman, New York, 1994. K. S. Pitzer, Thermodynamics, Mc Grow Hill, New York, 1995.

Precondition for testing:	G. Rogers, Y. Mayhew, Engineering Thermodynamics, Longman, Singapore, 1992. K. Work, Advanced Thermodynamics for Engineers, Mc Grow Hill, New York, 1995.

Subject content:

Thermodynamic definitions;basic parameters;Clapeyron's equation;heat and energy parameters;first and second law,reversibility, irreversibility; Carnot and thermal efficiency, refrigerating factor;perfect gases, polytropic processes, Zeuner's general equation, relationships between characteristic parameters; equipments and industrial application; real gases: liquid state, heat charts,tables,fundamental processes, throttling, application; humid air:thermodynamic properties, characteristic expressions, h,d chart,processes, appllication; compression, expansion, processes, use; cycle processes:kinds,efficiency,application; vapor cycles:basic, efficiencies, optimization, plants;cooling:processes, plants; heat transfer: conduction, convection, radiation.

Development of common and specific competences:

The program includes familiarizing with the fundamentals of thermodynamics being the basis of all tecnical branches including textiles. It is impossible to understand technological processes without knowing fundamental sciences.Based on essential principles, the aim is to facilitate the subsequent study and the work in engineering practice.

	Course:	Ultrasound and Laser Technique
Teacher in charge: Cerovec Milan	***Course summary:*** ***ECTS:*** ***Course type:*** ***Course is preformed:*** *Name of study:* *Module:* *Study:* *Term:*	3(2+1+0) 4 optional basis TOOT OT
Lecture type: lectures seminars	***Literature necessary for course:*** R.Guenther : Modern Optics, John Wiley & Sons, 1990. E.Hect,A.Zajac : Optics, Addison-W. Esley Publishing Coumpany,2002.	
Exercise type: audio practice seminars	P.Filippi: Basic Physics Theory & Methods . R.H.Randall: An Introduction to Acoustics, Dover Publications, 2005.	
Knowledge verification: preliminary exam	***Supplement literature:*** H.J.Gray, A. Issacs: A New Dictionary of Physics, London 1975. H:J:Pain: The Physics of Wibration and Waves, John Wiley & Sons, 1999.	
Precondition for testing:		

Subject content:

Acustic sources. Wave moving. Soundvelocity. Properties of ultrasound waves. Application of ultrasound in technology-processes management. Generally about laser. Stimulated emission. Laser pulsation by Q-factor. He- Ne laser. Width of the laser line. Increasing of laser power.Lase application in treatment of materials.

Development of common and specific competences:

Students get aquainted with ultrasound and laser and their application.

	Course:	Weaving Technology
Teacher in charge: Hađina Josip Strmečki Valent	***Course summary:*** ***ECTS:*** ***Course type:*** ***Course is preformed:*** *Name of study:* *Module:* *Study:* *Term:*	7(3+4+0) 9 mandatory tight discipline TOOT TTM 4th term
Lecture type: lectures practice	***Literature necessary for course:*** S. Kovačević, K. Dimitrovski, J. Hađina: Procesi tkanja (manual in print) V. Orešković, J. Hađina: Vezovi i konstrukcija listovnog tkanja, Bihać 1982	
Exercise type: audio practice laboratory practice	D. Jakšić: Tehnologija tkanja, Ljubljana 1980	
Knowledge verification: writing exam oral exam	***Supplement literature:*** Autoren kolektiv: Webmashinen, Leipzig 1966 Tekstilni priručnik, Maribor 1987.	
Precondition for testing: Program		

Subject content:

Structure of woven fabric. Weaving technology. Woven formation analysis. Weaving conditions: warp and woven tension, shed geometry, weft feeding and picking. Loom types and analysis. Loom devices adjustment. Machine elements, weft and warp controling systems. Procedures of preventing defects in weaving processes and analysis insight.

Development of common and specific competences:

Aquiring knowledge of woven fabric elements, introducing to weaving technology, aquiring knowledge about loom parts and devices, device regulation according to desired woven structure. Aquiring knowledge of managing woven construction technological process.

	Course:	Weaves and Fabric Construction
Teacher in charge: Strmečki Valent	***Course summary:*** ***ECTS:*** ***Course type:*** ***Course is preformed:*** *Name of study:* *Module:* *Study:* *Term:*	5(2+3+0) 5 mandatory tight discipline TOOT TTM 6th term
Lecture type: lectures practice	***Literature necessary for course:*** Meyer T.: Lexikon Gewebe, Verlags gruppe Deutscher Fachverlag, Frankfurt am Mein, 2002. Orešković V., D. Hađina.: Vezovi i konstrukcija tkanina, VTTŠ Bihač, 1983.	
Exercise type: audio practice workshops		
Knowledge verification: writing exam oral exam	***Supplement literature:*** Hofer A.: Stoffe 2, Deutscher Fachverlag GmbH, Frankfurt am Mein. Knjige: http://www.gesamttextil.de	
Precondition for testing: Passed exam from Weaving technology		

Subject content:

Basic weaves and it derivates, displaying. Multiwarp and multiweft weaves. Duble and hollow wovens. Velvet, pique, weave and pattern compability, weaves for hollow wovens and nets. Jacquard weaves: jersey, multiweft and multiwarp weaves, tapestry and carpets. Weave realization on the loom, computer aided weave and program workout (CAD-CAM). Threeaxial weaves. Woven construction by appearence, properties and usage. Audio practice: Weave drawing, woven decomposition and construction. Workshop practice: Program scheme for weaving machines (computer aided weave and program workout CAD/CAM).

Development of common and specific competences:

Students get knowledge about various combinations of thread bending, technical possibilities and limitations in machine weave designing. With woven analysis, he is prepared for making weave construction and embroidery book on hisown and able to decompose or construct woven according to market demands from visual, usage and property aspect.

	Course:	Work and Cost Study
Teacher in charge: Kovačević Stana	***Course summary:*** ***ECTS:*** ***Course type:*** ***Course is preformed:*** *Name of study:* *Module:* *Study:* *Term:*	3(1+2+0) 3 optional tight discipline TOOT TTM

Lecture type:	***Literature necessary for course:***
lectures practice	Orešković V.: Simulacijski modeli posluživanja više strojeva, Tekstil, 34 (1989), 9 Orešković V.: Okviri primjene teoretske jednadžbe za izračunavanje stupnja stjecajnog zastoja, Tekstil, 35 (1987), 8
Exercise type:	Kovačević, Stana: Analize rada poslužitelja i zstoja na konvencionalnim i suvremenim strojevima u mehaničkoj preradi. Kovačević, Stana; Orešković, Vladimir. Time Analysis in the Preparatory Operations of Warp and Weaving.
audio practice	

Knowledge verification:	***Supplement literature:***
preliminary exam	Taboršak: Studij rada, Tehnička knjiga, Zagreb, 1971

Precondition for testing:	
Program	

Subject content:

Analysis of the influence of labour costs, amortization and quality in the function of machine operation. Theoretical and practical analysis of machine stoppage as a function of operator assignement and definition of the level of concurrent machine downtime and efficiency. Analysis of work place and operating time of operator and machine. Elements of production quota as a mutual contract between operator and employer. Analysis of individual and group production quota. Influence of machine automation on production quota.

Development of common and specific competences:

Acquistion of knowledge of observing and analyisng work and time at the workplace and time optimisation per operations. Recognition and analysis of concurrent time. Ability of observing irregularities of operations and interventions, idling time at the work place. Development of abilities to optimize production costs and production quota per work places and production processes.

	Course:	Work Study
Teacher in charge:	***Course summary:***	4 (2+2+0)
Dragčević Zvonko	***ECTS:***	5
	Course type:	mandatory basis
	Course is preformed:	
	Name of study:	TOOT
	Module:	OT, OBT
	Study:	
	Term:	4th term

Lecture type:	***Literature necessary for course:***
lectures practice	Taboršak D.: Work study (in Croatian), Orgadata, Zagreb 1994. Car M., Krznar M., Šimon K.: Work Study (in Croatian), University of Zagreb, Zagreb 1993.

Exercise type:	
audio practice laboratory practice	

Knowledge verification:	***Supplement literature:***
writing exam oral exam	Polajnar A.: Work study (in Slovenian), Faculty of Mechanical Engineering, University of Maribor, SI 1999.; ISBN 86-435-0287-1 Selection of papers from Croatian and foreign magazines.

Precondition for testing:	

Subject content:

Work-study in contemporary organisation of production. The characteristics of the piece production. Time norms. Using time norms. Recording equipment. Normal time. The coefficient of dedication and its standard distribution. Additional time. The coefficient of additional time. Approach to recording. The method of recording basic times. Variants in cyclic sub-operations. Data processing and the methods of calculating time norms. Control and analysis of the fulfilment of norms. Analysis of machine work. Analysis of time loss in the working process. The methods of defining time loss. Simplification of the process of work. Principles of rationalisation and their application. Diagram of doing business. The calculation of profit. Economic comparison of two methods of work.

Development of common and specific competences:

Mastering the above topics will enable the students to get an insight into the rules of manufacturing at a higher quality level, at lower costs and in shorter time, and will give them the skills to monitor these rules and their application. Employing the above rules means reducing the costs of production, which is a key prerequisite for improving the position in the competitive market. The students will be able to use scientific methods to analyses and improve all the segments of logistic support in production and business in general, from the point of view of engineering and business efficiency. The knowledge acquired is an important prerequisite for further studies and understanding the topics associated with all the processes in garment engineering, preparation and organisation of manufacture and production lines, as well as for a proper usage and implementation of technical documents.

	Course:	Work Study
Teacher in charge: Dragčević Zvonko	***Course summary:*** ***ECTS:*** ***Course type:*** ***Course is preformed:*** *Name of study:* *Module:* *Study:* *Term:*	4 (2+2+0) 5 optional TOOT OT, DO
Lecture type: lectures practice	***Literature necessary for course:*** Taboršak D.: Work study (in Croatian), Orgadata, Zagreb 1994. Car M., Krznar M., Šimon K.: Work Study (in Croatian), University of Zagreb, Zagreb 1993.	
Exercise type: audio practice laboratory practice		
Knowledge verification: writing exam oral exam	***Supplement literature:*** Polajnar A.: Work study (in Slovenian), Faculty of Mechanical Engineering, University of Maribor, SI 1999.; ISBN 86-435-0287-1 Selection of papers from Croatian and foreign magazines.	
Precondition for testing:		

Subject content:

Work-study in contemporary organisation of production. The characteristics of the piece production. Time norms. Using time norms. Recording equipment. Normal time. The coefficient of dedication and its standard distribution. Additional time. The coefficient of additional time. Approach to recording. The method of recording basic times. Variants in cyclic sub-operations. Data processing and the methods of calculating time norms. Control and analysis of the fulfilment of norms. Analysis of machine work. Analysis of time loss in the working process. The methods of defining time loss. Simplification of the process of work. Principles of rationalisation and their application. Diagram of doing business. The calculation of profit. Economic comparison of two methods of work.

Development of common and specific competences:

Mastering the above topics will enable the students to get an insight into the rules of manufacturing at a higher quality level, at lower costs and in shorter time, and will give them the skills to monitor these rules and their application. Employing the above rules means reducing the costs of production, which is a key prerequisite for improving the position in the competitive market. The students will be able to use scientific methods to analyses and improve all the segments of logistic support in production and business in general, from the point of view of engineering and business efficiency. The knowledge acquired is an important prerequisite for further studies and understanding the topics associated with all the processes in garment engineering, preparation and organisation of manufacture and production lines, as well as for a proper usage and implementation of technical documents.

	Course:	Yarn Preparation Technology
Teacher in charge:	***Course summary:***	4(2+2+0)
Strmečki Valent	***ECTS:***	5
	Course type:	mandatory tight discipline
	Course is preformed:	
	Name of study:	TOOT
	Module:	TTM
	Study:	
	Term:	4th term

Lecture type:	***Literature necessary for course:***
lectures practice	Kovačević S.:Priprema pređe, Tekstilno tehnološki fakultet, Zagreb, 2002.

Exercise type:	
audio practice workshops	

Knowledge verification:	***Supplement literature:***
writing exam oral exam	Hofer A.: Stoffe 2, Deutscher Fachverlag GmbH, Frankfurt am Mein.

Precondition for testing:	Knjige: http://www.gesamttextil.de
Passed exam in Textile materials	

Subject content:

Raw material entry control. Climate condition requests at yarn preparation. Types of warping (english, sectional, block warping). Sizing, weft preparation, manual and automatic warp drawing-in in harnesses, reed and cams. Macnine construction and types, devices and their role, device adjucement and influence on products quality and quantity. Warp pattering possibilities and limitations. Information systems, data analysis. Warp waxing and lubrification. Solid and soft back beams. Sizing agent preparation, sizing. Audio practice: machine capacity calculations, warping process calculations and sizing agent recipe prediction. Workshop practice: Safety measures and propriet working. Machine setting. Defects and defect renouncing.

Development of common and specific competences:

Prevailing audio and workshop practice student is introduced in technology. He knows how to adjust the machine, all it parts, devices and information systems and influences on production quality and quantity. With those acquirements, student id able to run weaving yarn preparation processes.

	Course:	Yarn Structure and Properties
Teacher in charge:	***Course summary:***	2 (1+1+0)
Skenderi Zenun	***ECTS:***	2
	Course type:	mandatory tight discipline
	Course is preformed:	
	Name of study:	TOOT
	Module:	TTM
	Study:	
	Term:	4th term

Lecture type:	***Literature necessary for course:***
lectures	McCreight D.J., R.W. Feil, J.H. Booterbaugh, E.E. Backe: Short staple yarn manufacturing, Woodhead Publishing Limited, 1999 Nikolić M. i Perić P. Teorija in tehnologija predenja, Univerza v Ljubljani, Ljubljana, 1990
Exercise type:	Simpson W.S. and G.H. Crawshaw: Wool: Science and technology, Woodhead Publishing Limited, Cambridge, 2002
audio practice workshops laboratory practice	

Knowledge verification:	***Supplement literature:***
oral exam	Articles published in the Textile Journal, Zagreb

Precondition for testing:	
Regular attendance of lectures and practice	

Subject content:

Raw materials for yarn making. Procedures of spun yarn production. Yarn types. Yarn counts. Number of fibres in yarn cross section. Yarn twists. Singles, plyed and cabled yarns. Fancy yarns. Tensile yarn properties. Unconventional yarns. Quality yarn parameters.

Development of common and specific competences:

Student obtained knowledges in the field of spun yarn making, as well as its structures.

Teacher data

Surname, name:	Akalović Jadranka
Institution:	Faculty of Textile Technology, University of Zagreb
E-mail address:	akalovicj@gmail.com
WWW address of personal page:	

Curriculum vitae:

Personal data: born: October 5, 1951, Vareš, Bosnia and Herzegovina
Education:
SB., Chemistry – Faculty of Natural Sciences and Mathematics (general direction), University of Sarajevo, 1976
Study of psychological-pedagogical education at the Pedagogical University in Osijek 1991/2002
Lecturer on Faculty of Textile Technology, University of Zagreb, 2004
Work experience and work knowledge:
In industry: Chemical kombinat Soda So Tuzla – Factory of Soda Lukavac, Cibalia Vinkovci, Astra Zagreb
In educational institutions:
Vocational High-School, Vinkovci, 1982/90
Faculty of Textile Technology, University of Zagreb 2002, cooperation underway
Technology Development Center, University of Osijek, 2005 - 2008
Work experience:
Head of chemical laboratory and control of technological process, quality control of semi-finished products and finished products, quality control of technological water, drinking water, wastewater and solid waste
Head of development and preparation of production
Assistant director and director of the company
Expert collaborator in teaching (Vocational High-School, Vinkovci)
Lecturer (Faculty of Textile Technology, University of Zagreb)
Expert collaborator on the project technology (TERA Osijek; FKIT Zagreb; TTF Zagreb)
Work on creation of curricula and plans for vocational high-schools of leather-footwear direction
Work on creation of curricula for professional studies
Work on drafting the Rules of quality and quality management according to ISO 9001, ISO 14001
Membership in professional organisations:
Member of Croatian Society of Leather and Footwear Manufacturers
Member of Croatian Society for Quality
Technical committee member for leather and shoes of the Croatian Institute for Standardization

Date of last election:	May, 25 2004

Referent publications of lecturer

List of papers in last 5 years:

Examination of characteristics of beef skin designed for upholstery of seats in transportation means, AUTEX CONFERENCE, 2004. god.

Newer standardization features in the textile, clothing and footwear industry, CROATIA STANDARDIZATION AND RELATED ACTIVITIES, 2004.

The size of shoe - Mondopoint system of size and numeration ISO 9407:1991., CONFERENCE PROCEEDINGS, 2004.

Anthropometry in shaping the shoe and the last, CROATIAN ANTHROPOMETRY SYSTEM - Scientific and technical book, 2006.

Design and construction of leather footwear fit for washing in water medium, INTERNATIONAL TEXTILE, CLOTHING DESIGN CONFERENCE, 2006.

Washable lamb leathers, INTERNATIONAL TEXTILE, CLOTHING DESIGN CONFERENCE, 2006.
The application of new materials in processing of sheep fur, XII. RUŽIČKINI DANI, 2008.
Technical norms for personal protection gear: leg protection, 2. INTERNATIONAL TECHNICAL AND SCIENTIFIC CONFERENCE CROATIA, OCCUPATIONAL SAFETY AND HEALTH, 2008.

Teacher data

Surname, name:	Bischof Vukušić Sandra
Institution:	Tekstilno-tehnološki fakultet
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WWW address of personal page:	www.ttf.hr

Curriculum vitae:

Sandra Bischof Vukušić was born in Karlovac, Croatia, on 6th August 1967. She graduated on April 1990 from the Faculty of Technology and worked for one year as a technologist in the finishing department of a textile factory. Since 1991 she has been employed as assistant at the Faculty of Textile Technology at the Department for Textile Chemistry and Material Testing. She has accomplished academic Degree: Master of Science in December 1994 and Doctor of Science in March 2001 at the Faculty of Textile Technology. Theme of the Ph. D. Thesis was: "Polycarboxylic Acids in Durable Press Finishing of Cellulose Materials". Since the beginning of her work at the University she has taken part at the projects: Ecologically acceptable finishing processes and quality of textiles; Ecological processes of textile finishing; New microwave methods of textile finishing. Since 1998 she is developing her own project which was approved for young researchers: "Polycarboxylic acids as ecologically acceptable DP finishing agents". Since 2005 she is leading Bilateral HR/SL project: Antimicrobial Finishing; in the cooperation with Assoc. Prof. Bojana Vončina.

Date of last election:	15.07.2002.

Referent publications of lecturer:

Bischof Vukušić S., C. Schramm, D. Katović: "Influence of Microwaves on Non-Formaldehyde DP Finished Dyed Cotton Fabrics" Textile Research Journal 73 (8) 733-738 (2003).

Schramm C., S. Bischof Vukušić, D. Katović: "Non-formaldehyde durable press finishing of dyed fabrics: evaluation of cotton-bound polycarboxylic acids" Coloration Technology 118 (5) 244-249 (2002).

Flinčec Grgac S., Katović D., Bischof Vukušić: "Wellness – New trend in Textile Industry" Tekstil 53 (2004).

Bischof-Vukušić S., I. Soljačić, D.Katović : "Enzymes in the Finishing and Washing of Textiles" Tekstil 43 (3) 136-143 (1994).

Katović D., S. Bischof Vukušić: "News of the Computer Application in the Processes of Textile Finishing" Tekstil 44 (1) 26-34 (1995).

List of papers in last 5 years:
Bischof Vukušić S., D. Katović, S. Flinčec Grgac: “Effects of microwave treatment on fluorocarbon finishing” Colourage Annual 51 100-104 (2004).
Bischof Vukušić S., D. Katović, I. Soljačić: “DP Finishing with Polycarboxylic Acid and some Phosphono-based Catalysts” AATCC Review 2 (10) 26-28 (2002).
Katović D., Bischof Vukušić S.:”Application of Electromagnetic Waves in Durable Press Finishing with Polycarboxylic Acid” AATCC Review 2 (4) 39-42 (2002).
Bischof-Vukušić S., D. Katović: “Creaseproof finishing using phosphono-based catalysts with polycarboxylic acids” Colourage Annual 47 87-94 (2000).
Bischof-Vukušić S., D. Katović, C. Schramm: “Influence of Fluorocarbon Polymers in Functional Finishing with Polycarboxylic Acids” Tekstil 53 (3) 103-109 (2004).
Bischof Vukušić S., D. Katović, I. Soljačić: “A Comparison of Conventional and New Ecologically Acceptable Durable Press Finishing Agents” Kemija u industriji 52 (7-8) 327-333 (2003).
Bischof Vukušić S., D. Katović, Đ. Parac Osterman Đ: “Citric Acid in Crease-Proof Finishing and its Impact on Coloration Changes on Cotton Fabrics" Tekstil 51 (7) 325-330 (2002).
Katović D., S. Bischof Vukušić, G. Štefanić: “Investigations of Esterification of Polycarboxylic Acids with Cellulose Materials” Tekstil 49 (10) 551-554 (2000).
Katović D., S. Bischof Vukušić: "Intelligent Finishing Processes Management Symposium" Textile Days Zagreb 1999" Zagreb 3.-5. February 1999., Tekstil 48 (1) 8-17 (1999).
Bischof Vukušić S., Katović D.: “Textile Finishing Influenced with Microwaves” Symp. 83rd World Conference of the Textile Institute Shanghai, China, 23-27 May 2004., Section 6, p. 1165-1170.
Katović D., Bischof Vukušić S.: “Microwave Device for Drying and Finishing of Textiles”,The TI 83rd World Conference" Shanghai, China, 23-27 May 2004., Section 6, p. 1145-1148.
Katović D., Bischof Vukušić S.: “ The Application of Microwave Energy in Durable Press Finishing” ITC&DC, Dubrovnik, HR, 6-9th October 2002., Section C6, p. 283-287.
Bischof Vukušić S., Katović D.:”The Influence of Durable Press Finishing on Shade Changes of Dyed Cellulose Fabric”,The TI 82nd WC" Cairo, Egypt, 23-27.032002., CD-ROM, Section 12.
Bischof Vukušić S., Katović D.: “Possible Substitution of Conventional Durable Press Finishing Reagents and Methods”,The TI 81th WC" Melbourne, Australia, 1-4 April 2001, CD-ROM, Sec. 4B.
Bischof Vukušić S., Katović D.: “Non-Formaldehyde Wrinkle-Free Finishing with Polycarboxylic Acids”,The TI 80th World Conference" Manchester, UK, 16-19 April 2000., CD-ROM.
Bischof Vukušić S., Katović D.: “DP Finishing with Polycarboxylic Acid and some Phosphono-based Catalysts” AATCC IC&E, Winston-Salem, NC, USA, 17-20 Sept. 2000, CD-ROM, Sec. 5.
Katović D., Bischof Vukušić S. “Application of EM Waves in Durable Press Finishing with PCA” AATCC IC&E, Winston-Salem, NC, USA, 17-20 September 2000., CD-ROM, Section 14.
Bischof Vukušić S., Katović D.: “Non-Formaldehyde Wrinkle-Free Finishing with Polycarboxylic Acids” Symposium "The TI 80th WC" Manchester, UK, 16-19 April 2000.
Bischof Vukušić S., Katović D., Soljačić I.: "Environment Friendly DP Finishing with Mixed Polycarboxylic Acid and Mixed Catalyst",The TI 79th WC" Chennai, India, 10.-13. February 1999.
Bischof Vukušić S., Katović D., Soljačić I.: "Impact of Mixed Polycarboxylic Acid on Coloration Changes" 18th IFATCC Congress 1999, Copenhagen, 8-10 September, Proceedings, p. 218.
Bischof Vukušić S., et al: “New ecologically accepted DP Finishing methods with the implementation of microwaves” XVIII. HKD/HDKI, Zagreb, 16-19 Febr. 2003, Knjiga sinopsisa, 296.
Katović D., S. Bischof Vukušić: “New Achievements in Textile Finishing Machinery Exhibited at ITMA'99” Symposium "Textile Days Zagreb 2000" 10.-11.02.2000., Tekstil 49 (2) 65-72 (2000).
Katović D., S. Bischof Vukušić, J. Bartolić: “Microwave device for thermal treatments” Colloquium: Development of New Technologies & Products, Croatian Academy of Engineering 26.02.2005.

Teacher data

Surname, name:	Bišćan Jasenka
Institution:	Faculty of Textile Technology
E-mail address:	jasenka.biscan@zg.htnet.hr
WWW address of personal page:	

Curriculum vitae:

Born in Goričan, Croatia,1947. In 1970. graduated at the Faculty of Technology, Univ. of Zagreb. From 1970 - 1994. had the research positions at the Ruđer Bošković Institute in Laboratory for Surface Chemistry and Electrochemistry. Master Thesis defended in 1974. and Ph.D. Thesis in 1981., both at the Faculty of Sciences in Zagreb. Degree of Research Associate has from 1988. In 1994 leaved the Ruđer Bošković Institute and joined the private company Inženjering-Bišćan d.o.o. In 1999. has got a teaching position in Physical Chemistry at the Faculty of Textile Technology in Zagreb. From 1999. performs the course of Physical Chemistry on part-time basis. In February, 2002. was elected to the position of Assist. Professor in the field of Natural Sciences/Chemistry/Group of courses in physical chemistry. The main interest and contribution in research was in the field of adsorption and electrokinetics at the solid-liquid interfaces. This resulted in some 20 papers published in high class journals(CC/SCI) in the period 1970-2000. The next field of interest was surface chemistry in ecology.

In this field some 10 papers in high class journals(CC/SCI) were published in the period 1980-2003. Participated at about 20 international and also about 20 national conferences. In the period 1970-1996, participated, first, as a collaborator and later, as principal investigator, in a number of Grants supported either from domestic sources (Ministry for Science and Technology) or foreign institutions (National Institute for Standards and Technology, Washington D.C.). Within the same period several professional visits to USA were successfully realised and fastened the collaboration with foreign colleagues which lasted almost 30 years. The other study visits or participation at congresses in foreign countries were in Switzerland (EAWAG), France (Ecole Normale Superieure), Puerto Rico, Ukraine, Spain, Austria, Sowenien and Italy.

Date of last election:	18. 02. 2002.

Referent publications of lecturer:

J.Jednačak-Bišćan and V. Pravdić: Adsorption Phenomena on Glass Surfaces.Part I. J. Colloid Interface Sci. 75 (1980) 322-327

J.Jednačak-Bišćan and V. Pravdić and W. Haller: Adsorption Phenomena on Glass Surfaces.Part IV. J. Colloid Interface Sci. 121 (1988) 345-353

J. Jednačak-Bišćan and D. Čukman: Interactive Forces at Silica/Organic Solution Interface, Colloids and Surfaces, 41 (1989) 87-95

J. Bišćan, M. Kosec and N. Kallay: The Isoelectric Conditions of the Constituents of the Complex Oxide Pb(Zr,Ti)O3, Colloids and Surfaces A, 79 (1993)217-226

N. Kallay, V. Hlady, J. Jednačak-Bišćan and S. Milonjić , Ch.2. in Investigations of Surfaces and Interfaces, B. W. Rossiter and R. C. Baetzold, Wiley, 1993.

List of papers in last 5 years:
J. Bišćan, N. Kallay, T. Smolić: Determination of Isoelectric Point of Silicon Nitride by Adhesion Method, Colloids and Surfaces A, 165 (2000)115-123
A.M. Grancarić, I. Soljačić, T. Pušić, J. Bišćan: Electrokinetic Behaviour of Textile Fibres (in Croatian), Polimeri 23(6)(2002)121-128
Dragčević, J. Bišćan: Surface Potential of Beta-Alanine at the Electrolyte/Air and Artificial Seawater/Air Interface, Colloids and Surfaces A, 223 (2003) 35-43
A.M. Grancarić, T. Pušić, A. Tarbuk, J. Bišćan: Sunprotected White Cotton Knitted Fabric, Proceedings, 2nd ITC&DC, October 2004, Dubrovnik

Teacher data

Surname, name:	Bokić, Ljerka
Institution:	Faculty of Textile Technology University of Zagreb
E-mail address:	ljerka.bokic@ttf.hr
WWW address of personal page:	www.ttf.hr

Curriculum vitae:

Date and place of birth: March 21, 1942. Zagreb. Elementary and High School (1949-1961) of Zagreb.Graduate Study: Faculty of Technology University of Zagreb (1961-1966)
Graduate Study. Theses."Inhibitory Effects of Amines on polarographic Processes in Perchloric Acid Solutions", 1966.
Master degree: Faculty of Pharmacy and Biochemistry University of Zagreb, Physical Chemistry Methods, Master Thesis "Electrochemical Reduction of Vanadium at the Dropping Mercury Electrode in Alkaline Buffer Solution" (Ivan Filipović, Ph.D., full professor)1980.
Dissertation theses: "Bonding and Determination of Metal Ions on Cotton Materials" (Konstantin Moskaliuk, Ph.D., full professor) Faculty of Technology University of Zagreb, 1989.
Professional Positions:
1969. Faculty of Technology University of Zagreb, Department of General and Inorganic chemistry, assistant
1970. Faculty of Technology University of Zagreb, Department of Analytical Chemistry, assistant

1978. Faculty of Textile Technology University of Zagreb, assistant
1990. Assistant professor, Natural Sciences, Chemistry, Analytical Chemistry Assistant professor Tehnical Sciences, fied of Textile Technology, Faculty of Technology University of Zagreb.
1995. Associate professor, Technical Sciences, fied of Textile Technology
2001. Assistant professor Natural Sciences, Chemistry, Analytical Chemistry
2001. Full professor, Technical sciences, Textile Technology
Scientific activities:
Original scientific papers published in periodicals cited by SCI and CC (28), Profesoinal papers (4), Reviews:(2), Book chapters (2) Taking part at international conferences (18), Taking part at internal conferences (32)
Mentor: Dissertation and Master Theses (2), Graduate Theses (27)
Scientific Activities: Application and development of Analytical techniques focused on determination of traces heavy metals in textile waste waters and textile materials.

Date of last election:	2000, Natural sci., Chemistry, 2001; Technical sci.,Textile Tech.

Referent publications of lecturer:

Bokić, Lj. Stefanović, B.; Turalija, M. Određivanje bakra u bojilima i na bojadisanom tekstilnom materijalu,Tekstil. 50 (2001.), 3; 101-106

I. Rezić, Lj. Bokić, A. J. M. Horvat; TLC Separation and Identification of Heavy Metals Present in Cotton Material, Journal of Plannar Chromatography, 17(2004)305-308

Bokić, Lj.; Rezić, I. Biological Purification of Waste Water of the Textile Industry, Tekstil. 52 (2003) 12; 631-639

Z.Grabarić, Lj. Bokić, B. Stefanović, Determination of Fe in Raw Materials, During fabric processing, and in Wastewaters of the Textile Industry J. AOAC Int., 82 (3) (1999) 683-688

I. Rezić, Lj. Bokić, A. J. M. Horvat; TLC Separation and Identification of Heavy Metals Present in Cotton Material, Journal of Plannar Chromatography,17(2004)305-308

List of papers in last 5 years:
I. Rezić, Lj. Bokić, A. J. M. Horvat; TLC Separation and Identification of Heavy Metals Present in Cotton Material, Journal of Plannar Chromatography,17(2004)305-308 Detrmination of iron in raw materials, during fabric processing, and in wastewaters of the textile industry. // J. of AOAC International. 82 (1999) , 3; 683 - 688 Petrović, M.; Kaštelan-Macan, M.; Andrašić, S.; Bokić, Lj., Application of colour analyzer in quantitative thin-layer chromatography.Journal of chromatography 771(1997), 251-257 Bokić, Ljerka; Petrović, Mira; Kaštelan-Macan, Marija; Moskaliuk, Konstantin. Chromatographic Separation and Quantitative Determination of Metal Ions in Wool Material. // Chromatographia. 34 (1992) , 11/12; 648-650 (članak, znanstveni rad).
Z.Grabarić, Lj. Bokić, B. Stefanović, Determination of Fe in Raw Materials, During fabric processing, and in Wastewaters of the Textile Industry J. AOAC Int., 82 (3) (1999) 683-688
Lj.Bokić, I Rezić, Biological Puricifation of Waste Water of the Textile Industry,Tekstil, 52(12) (2003), 631-639
Rezić, I., Bokić, Lj., Determination of Binder Composition Present in the Painted Layer on Historical Textile, Studies in Conservation.(in progress) (2005).
Bokić, Lj. Stefanović, B.; Turalija, M. Determining Copper in Dyestuffs and on Dyed Fabries, Tekstil. 50 (2001.), 3; 101-106
Rezić, I.; Bokić, L.; Horvat, A.J.M. Optimisation of Separation and Identification of Heavy Metals in Textile Industry // 5th International Conference Textile Science, Liberec, 2003, 275-277
Bokić, Lj.; Vojnović, B.; Regelja, M., Simultaneous Determination of Inorganic Anions of Various Textile Waste Waters, 2nd ITC&DC, 2004. 971-975
Rezić, I.; Bokić, Lj., Development of Chromatography Method for Determination of Surfactants in Textile Waste Waters, 2nd I.T.C. & D.C., 2004. 1020-1023
Parac-Osterman, Đ.; Bokić, Lj.; Golob, V. ; Vojnović, B.; Đurašević, V., Decolourization of Textile Dyes Using Natural Recourses, Book of Proceedings of the 2nd I.T, C& D.C,Zagreb: A & C D., Zagreb, 2004. 1014 - 1019
Bokić, Lj; Stefanović, B., Speciation Capability of Chromium Ions by TLC, 2nd I.T.C&DC, 2002. 667 - 672
Cerjan - Stefanović, Š.; Šiljeg, M.; Bokić, Lj.; Stefanović, B.; Koprivanec, N. Removal of Copper ions from Metalcomplex Dyestuffs by Natural Zeolites, I. T. C. & D.C., 2002. 673 - 676
Lj. Bokić, I.Rezić, S.Flinčec, Determination of the Quantitative Share of Alkaline and Alkaline Earth Elements in Natural Cellulosic Textile Materials by Using AAS metod, Tekstil 52 (10), 503 (2003)
B.Stefanović, Lj Bokić, I.Soljačić, Heavy Metals in Textile Dyestuffs, Content Determination and Toxicity; Tekstil, 48(12)(1999), 615-623.

Name:	Mladen Božičević
Institution:	Faculty ofGeodetic Engineering
E-mail address:	bozicev@gtfvz.hr
Personal Internet address:	

Biography:

I was born in 1957 in Varaždin where I received my primary and secondary (grammar school) education. In 1976,I started studies of Mathematics at the Faculty of Science in Zagreb. I graduated in 1980. I continued my post graduate studies of Mathematics at the University of Zagreb and defended my Master's thesis in 1983.In end 1984, I started working as the assistant lecturer with the Faculty of Geodetic Engineering and left to the University of Utah, USA for further training. I received ma doctorate degree in 1988 and spent the next four years as the guest scientist at Rutgers University, New Brunswick. I was appointed the assisstant professor ("docent" in Croatia) in the area of sciences, field mathematics, in 1988 and an associate professor in 2002. At the Faculty of Geodetic Engineering I teach courses of Mathematics I, Mathematics II and Mathematics III. In my scientific work I have mostly focused on algebra geometry in the theory of representation of the Liejev groups. I have authored nine scientific works published in Current Contents magazines and since 2002 I have been the head researcher in the Ministry of Science, Education and Sports Project on the Geometry of Nilpotent Orbits and their Application in the Theory of Representation.

Last Appointment Date:	

List of Qualifying Works:

1. On the associated cycles of discrete series representations, Journal of algebra, 208, 1998, 129-146.

2.Double cells for unitary groups, Journal of algebra, 254, 2002, 115-124.

List of works in the last five years:
1. A property of Lie group orbits, Canad. Math. Bull., 43 (1), 2000, 47-50.
2. A limit formula for elliptic orbital integrals, Duke Math. Journal, 113 (2), 2002, 331-353.
3. Coherent continuation on the category of (g,K)-modules, Comm. in Algebra, 31 (5), 2003, 2043-2052.
4. Double cells for unitary groups, Journal of Algebra, 254, 2002, 115-124.

Name:	Milan Cerovec
Institution:	Faculty of Textile Technology, Department in Varaždin
E-mail address:	mcerovec@sj-vz.ttf.hr
Personal Internet address:	

Biography:

Milan Cerovec was born in 1946 in Varaždinu, where he received his primary and secondary (Grammar School) education. After secondary school he was accepted at the University of Zagreb, Faculty of Science, Department of Physics where he graduated in 1972 and was awarded the title of the the graduate engineer in Physics. He started working the same year at the School of textile and Clothes, as the Physics and the Mathematics teacher. In 1974, he continued graduate studies at the Faculty of Electrical Engineering and Computing in the area of Computer Studies. In 1976, he was appointed the lecturer of the courses of Physics and Mechanics at the Higher Textile School in Varaždin. Throughout his work he published class materials for students, scientific works, participated at international conferences and supported collaboration between institutions of higher education and industry. In 2003, he was appointed the senior lecturer and the head of the Varaždin Department of the Faculty of Textile Technology.

Last Appointment Date:	2003

List of qualifying works:

Kranjčec M. M. Cerovec i ostali: Dvolom u γ1 - (Gax In1-x)2 Se3 monokristalima, Optical Materials 25, (2004) 307-312.

Strmečki V., M. Cerovec: Istraživanje apsorpcije zvuka raznih vrsta pređa, Tekstil 46 (1988) 572-577

Strmečki V. ,M. Cerovec: Utjecaj konstrukcije tkanine na apsorpciju zvuka Tekstil 47 1989) 289-294

Cerovec M. V. Lopac : Zbirka zadataka iz fizike, Skripta (1986)

Cerovec M. : Mjerenje i mjerni sustavi, Zbornik radova VTTŠ (1981) 105-115

List of works in the last five years:
Kranjčec M., M. Cerovec i ostali : Dvolom u γ 1 - (Gax In 1-x)2 Se 3 monokristalima, Optikal Materials 25, (2004) 307-312.
Strmečki V.,T. Koren, M Cerovec : Utjecaj konstrukcije tkanine na smicanje niti u šivaćeg šava, Tekstil 2 (2000) 71-76.

Teacher data

Surname, name:	Cetina, Mario
Institution:	Faculty of Textile Technology, University of Zagreb, Croatia
E-mail address:	mario.cetina@ttf.hr
WWW address of personal page:	http://www.ttf.hr/index.php?str=53&osoba=57

Curriculum vitae:

Mario Cetina was born in 1962, Samobor, Croatia. He graduated in 1986 with B.Sc. degree in Textile Engineering at the Faculty of Technology, University of Zagreb, Croatia. After graduation he was employed at the Institute for Textile and Clothing of the Faculty of Technology (now, Faculty of Textile Technology) as an assistant of "General chemistry". He received M.Sc. degree in 1990 at the Faculty of Technology and Ph.D. at the Faculty of Chemical Engineering and Technology, University of Zagreb. Since 2004 he's been working as a lecturer of "General chemistry" at the Faculty of Textile Technology, Varaždin. His research interest is X-ray crystal structure analysis of organic and organometallic compounds. Master thesis: "Adsorption of water soluble textile dyestuffs on natural adsorbents at 25oC and 60oC". Faculty of Technology, University of Zagreb, 1990.

PhD thesis: "Structural investigations of 1-aminocyclopropane-1-carboxylic acids derivatives and their complexes with transition metals". Faculty of Chemical Engineering and Technology, University of Zagreb, 2001. Memberships: Croatian Chemical Society, Croatian Society of Chemical Engineers, Croatian Crystallographic Association

Date of last election:	October 6th 2004.

Referent publications of lecturer:

M. Cetina, A. Hergold-Brundić, A. Nagl, M. Jukić, V. Rapić: Ferrocene Compounds. XXXI. Structure of 3-Ferrocenylpropanoic Acid. Structural Chemistry 14 (2003) 289-293.

Z. Džolić, M. Cetina, et al.: Molecular structures and ab initio molecular orbital calculations of the optically active derivatives of 1-aminocyclopropane-1-carboxylic acid. Journal of Molecular Structure 655 (2003) 229-241.

M. Cetina, A. Hergold-Brundić, N. Raos, L. Žuža-Mak: Crystal and molecular structure and conformational analysis of (1RS, 2SR)-1-[N-(tert-butoxycarbonyl)amino]-2-hydroxymethylcyclopropane-1-carboxylic acid. Journal of Molecular Structure 657 (2003) 145-155.

M. Cetina, Z. Džolić, D. Mrvoš-Sermek, A. Hergold-Brundić, A. Nagl, M. Mintas: Synthesis and X-ray study of the 6-(N-pyrollyl)purine and thymine derivatives of 1-aminocyclopropane-1-carboxylic acid. The Journal of Peptide Research 63 (2004) 391-398.

M Cetina, A. Nagl, S. Prekupec, S. Raić-Malić, M. Mintas, M.: Hydrogen bonding and C-H...Pi interactions in 7-hydroxy-3-methoxy-4-methyl-5,6,7,8-tetrahydropyrido[1,2-c]pyrimidin-1(9H)-one. Acta Crystallographica C61 (2005) o158-o160.

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M. Cetina, A. Hergold-Brundić, D. Mrvoš-Sermek, Z. Džolić, M. Mintas: Crystal structure of ethyl (1S,2R)-1-benzamido-2-[(S)-2,2-dimethyl-1,3-dioxolan-4-yl]cyclopropane carboxylate, C18H23NO5. Zeitschrift für Kristallographie - New Crystal Structures 216 (2001) 595-596.
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M. Cetina, M. Jukić, V. Rapić, A. Golobič: Ferrocene compounds. XXXVIII. Dimethyl ferrocene-1,1'-dicarboxylate. Acta Crystallographica C59 (2003) m212-m214.
M. Jukić, M. Cetina, J. Vorkapić-Furač, A. Golobič, A. Nagl: N-(o-Chlorophenyl)-2,5-dimethylpyrrole-3-carbaldehyde. Acta Crystallographica C59 (2003) o357-o359.
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M. Cetina, A. Hergold-Brundić, A. Nagl, M. Jukić, V. Rapić: Ferrocene Compounds. XXXI. Structure of 3-Ferrocenylpropanoic Acid. Structural Chemistry 14 (2003) 289-293.
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I. Ćaleta, M. Cetina, et al.: Synthesis and Crystal Structure Determination of 6-(N-Isopropyl)amidino-2-methylbenzothiazole Hydrochloride Monohydrate and 2-Amino-6-(N-isopropyl)amidinobenzothiazole Hydrochloride. Structural Chemistry 14 (2003) 587-595.
M. Jukić, A. Hergold-Brundić, M. Cetina, A. Nagl, J. Vorkapić-Furač: Synthesis and Structures of the Novel Pyridoxal Oxime Derivatives. Structural Chemistry 14 (2003) 597-604.
K. Wittine, T. Gazivoda, M. Markuš, D. Mrvoš-Sermek, A. Hergold-Brundić, M. Cetina, D. Žiher, V. Gabelica, M. Mintas, S. Raić-Malić: Crystal structures, circular dichroism spectra and absolute configurations of some L-ascorbic acid derivatives, Journal of Molecular Struct. 687 (2004) 101-106.
S. Raić-Malić,et al.: Spirobipyridopyrans, spirobinaphthopyrans, indolinospiropyridopyrans, indolinospiro-naphthopyrans and indolinospironaphtho-1,4-oxazines: synthesis, study of X-ray crystal structure, antitumoral and antiviral evaluation, Bioorg. & Medicinal Chem. 12 (2004)
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M. Cetina, Z. Džolić, D. Mrvoš-Sermek, A. Hergold-Brundić, A. Nagl, M. Mintas: Synthesis and X-ray study of the 6-(N-pyrollyl)purine and thymine derivatives of 1-aminocyclopropane-1-carboxylic acid. The Journal of Peptide Research 63 (2004) 391-398.
S. Batinac, D. Mrvoš Sermek, M. Cetina, K. Pavelić, M. Mintas and S. Raić-Malić: Synthesis of the novel bicyclic oxepinopyrimidine and fluorinated pyrrolidinopyrimidines. Heterocycles 63 (2004) 2523-2536.

Teacher data

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Curriculum vitae:

Born 12. Octobre in Zagreb. 1986. graduated History of Art and French language on university of Zagreb. From 1971 was teaching History of Art an French language on X. Gymnasium.From 1982.was teaching " Introducting History of Art" and "History of textile and clothing" on Higher School for Textile and Clothing. On Faculty of Textile Technology, University of Zagreb, 2002 was appointed for Senior Lecturer and currently working as Professor for subject: "Intruducting in History of art" , "History of Textile and clothes", "Theory of Design" . Also translate studies, text and books from humanistic and arts fields.

Date of last election:	1999

Referent publications of lecturer:

Ethnic Heritage and Fashion in 48/5,1999.

Design, Prologue: Jocelyn de Noblet:Design, Golden Marketing,1999.

Catalogues: Habit open work,To the freedom of expression, Anka Krizmanić, Potrfolio from 1917., Heritage in modern time, Weving of light, Ancient crafts in modern fashion expression, Magic of Carpet.

Translations: the text of Umbert Ecco, Gillo Dorfles, Philipp Perrot for Almanac MODA(Fashion), Školska knjiga, 2001.

Educational emision on radio from 1994-1998: Periwig, Hats, Corset, Bathing suit, Gloves, Handkerchief, Button, Dressing in prethistory, Clothes from Egypt,Rome, Byzantines.

List of papers in last 5 years:
Dressing in the Mirror of History-researching study for book MODA(Fashion),Školska knjiga, Zagreb, 2001.
Design, Fine Art and Fashion- Study: project in finishing, Center for social researches, Zagreb.
Lace, Dalmatica, Cravat- Leksikon Hrvatskog Identiteta- Profil- (ready for print)

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Curriculum vitae:

Academic Background:B.Sc.1964Faculty of Technology University of Zagreb,Croatia; M.Sc.1971 Faculty of Techology; Ph.D.1977Faculty of Technology.Professional Promotion: Assistant Contributor 1964-1970(Institute of Physical ChemistryUniversity of Zagreb);Assistant1970- 1977(Department of Physical Chemistry Faculty of Technology);Research Assistant1977-1978(Depart.of Phys.Chem.Fac. of Tech.);Assistant Professor1978-1992(Institute of Textile Technology Faculty of Technology); Associate Professor1993-2000(Faculty of Textile Technology University of Zagreb);H.S.Professor 2000-..(Faculty of Textile Technology).Lecturer on:Physical Chemistry(1978-2000);Construction Materials and Protection(1978-2000);Textile Chemistry(1993-..). On Postgraduate S.:Area of Phys.Chem.;Reg.and Recyc.of Wastewaters(1998-2000). Research Projects: Principal Investigator(1978-1980);(1981-1985);(1986-1990);(1991-1995); Investigator(1996-2000); (2001-..).Research Area: Ecology, Physical Chemistry.

Membership: ICSOBA (International Committee for the Study of Bauxites,Alumina and Aluminium), CATE(Croatian Assotiation of Textile Engineers), CCAT(Croatian Chatolic Assotiation of Teachers).Foreign Languages:English,Germany.

Date of last election:	June 2000.

Refferent publications of lecturer:

Došen-Šver,D.:Who"s Who in Science and Engineering,Marquis Who"sWho Publication Board,8th Edition New York,USA,2005,446

Došen-Šver,D.&Pernar,E.:Wastewater purification after a new method of wool scouring,2nd Int.Text.,Cloth.and Design Conf.,3rdto6th Oct.2004,Dubrovnik,Croatia,988-991

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Došen-Šver,D.,Cetina,M.&Bach-Dragutinović,B.:Adsorption of textile dyestuffs at 60 C from water solutions on natural adsorbents,Tekstil 41,1(1992)1-6
Došen-Šver,D.,Cetina,M.&Bach-Dragutinović,B.:Removal of textile dyestuffs from water solutions by isothermal adsorption on 25 C,Tekstil 40,4(1991)157-161
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Došen-Šver,D.&Čavlek,Z.:Comparative investigations of cotton dyestuffs adsorption on activated carbon and clay,Tekstil 38,12(1989)747-749
Došen-Šver,D.&Bešenski,S.:Clarifying of effluents of the textile industry,Tekstil 37,4(1988)193-198
Došen-Šver,D.&Bešenski,S.:Appearance and characteristics of waste waters of textile industry,Tekstil, 35,5(1986)325-336

Teacher data

Surname, name:	Dragčević, Zvonko
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Curriculum vitae:

Born in Zagreb in 1946. Graduated from the Faculty of Technology, University of Zagreb in 1971, awarded master degree in the field of chemical engineering in 1976 and doctor's degree in the field of chemistry in 1981. Assistant professor in technical field, branch of chemical engineering in 1984, associate professor in 1990 and full professor in textile technology in 1999. Full professor for the second time (permanent title) since 2005. Organises instruction and heads the courses in industrial engineering, Work-study in garment technology, Workplace design and Constructive materials and protection at the graduate study and Selected chapters of industrial engineering, Measuring methods in garment engineering and Ergonomy at the post-graduate study. At professional (applied) studies organises instruction and lectures the courses in Workstudy and Security and protection in industry (Zagreb and Varaždin). From 1971 to 1980 employed at the Department of Physical Chemistry, Faculty of Technology, University of Zagreb and participated in the research of thermodynamics and kinetics of alumosilicates.

Since then, he has published 71 original scientific papers, 24 reviews and 11 professional papers in the field, together with 6 chapters in a scientific book and registered 2 patents at the Croatian Patent Office. He was a vice-dean of The Faculty of Technology (1987-1991) and of The Faculty of Textile Technology (1991-1996) and a few times the head of the Department of Clothing Technology. Since 1988 active in the international DAAAM International organisation in Vienna, as the leader of the textile/garment section and a member of the Scientific Committee of the Conference. He is a member of the International Textile Academie (ITA), as well as the co-ordinator of the CEEPUS programme in the field of textile technology. Organiser of the first and second international scientific conference in textile technology ITC&DC 2002 and 2004, as well as the guest editor of the international magazine IJCST 2003 and 2005. Works in the magazine Tekstil since 1987, as the editor-in-chief, editor from 1994 to 1998, awarded the golden medal of the Tekstil magazine for its 50th anniversary.

Date of last election:	2005

Referent publications of lecturer:

Z. Dragčević, S. Firšt Rogale: Methods of Defining Time of Machine-Hand Sewing Suboperations, Tekstil, 51 (2002.) 2, 51-63

Z. Dragčević, D. Zavec, D. Rogale, J. Geršak: Workloads and Standard Time norms in Garment Engineering Journal Textile Apparel, Technology and Management, 2 (2002) 2, 1-8

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S. Firšt Rogale, Z. Dragčević: The mathematical modelling of system for the determining machine-manual operation times sewing, The 12th International DAAAM Symposium 24-27th October 2001, Jena, Germany143-144
D. Rogale, Z. Dragčević: Techniques of Making-up Technical Textiles, Tekstil, 51 (2002), 2; 64-77
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S. Firšt Rogale, Z. Dragčević , D. Rogale: Determining Reaction Abilities of Sewing Machine Operators in Joining Curved Seams, International Journal of Clothing Science and Technology, 15, (2003), 3/4, 179-188 (WTA 2029556)
Firšt Rogale, S.; Dragčević, Z. & Rogale, D. (2003): Methods of Determining Normal Times for Machine-Hand Sub-Operation of Sewing Straight and Curved Seams, Chapter 20, DAAAM International Scientific Book 2003, B. Katalinić (Ed.), 225-242, Published by DAAAM International, Vienna, Austria ISBN 3-901509-36-4, ISSN 1726-9687
Hursa, A.; Rogale, D. & Dragčević Z. (2003): The Impact of Border Ruler on Processing Parameters in Straight Seam Sewing Operation, Chapter 24, DAAAM International Scientific Book 2003, 281-294, Published by DAAAM International, Vienna, Austria, ISBN 3-901509-36-4, ISSN 1726-9687
Z. Dragčević, T. Bakran, S. Bogović, E. Vujasinović: Ceremonially Academic Gowns of the University of Zagreb - Idea to Finished Product Path, Book of Proceedings of the 2nd ITC&DC 2004, 3rd-6th October 2004, Dubrovnik, Croatia, 526-532
D. Večaj, K. Takeuchi, Z. Dragčević: Protective Airbag Jacket for Motorcyclists, Book of Proceedings of the 2nd ITC&DC 2004, 3rd-6th October 2004, Dubrovnik, Croatia, 624-628
Rogale, D.; Petrunić, I. & Dragčević Z. (2004): New measuring system in investigating electrical energy processing parameters in garment sewing operations, DAAAM Inter. Sc. Book 2004, Published by DAAAM Inter., Vienna, Austria, 2004; 537-552; ISBN: 3-901509-38-0
Vujasinovic, E.; Dragcevic, Z.; Čunko, R.; Geršak, J. (2004): Micro & macro construction features of technical textiles for sailmaking, DAAAM INTERNATIONAL SCIENTIFIC BOOK 2004, Katalinic, Branko (ur.)., Vienna : DAAAM International Vienna, 2004.; 645-670; ISBN: 3-901509-38-0
Vujasinović E., Dragčević Z., Čunko R.: Application of Image Analysis in Objective Evaluation of Sailcloth Quality, Proceedings of the 14th International DAAAM Symposium, October 2003, Sarajevo, BIH, 495-496
Firšt Rogale, S., Dragčević, Z., Rogale D.: Determining Reaction Abilities of Sewing Machine Operators in Joining Curved Seams, International Textile, Clothing & Design Conference – Magic World of Textiles, October 06th to 09th 2002, Dubrovnik, Croatia, 347-352
D. Rogale, Z. Dragčević: System for automatic measurement of processing parameters and structures for garment manufacturing operations, Patent rights recorded into the Patent Registry of the Croatian department for intellectual property, No. PK20010694, March 11th 2003, Croatia

Name:	Ljerka Dugan
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Biography:

Date of birth: 26 June 1945 in Varaždin
Primary, secondary and higher education: 1952 to 1968 in Varaždin
University education: University of Zagreb, Faculty of Textile Technology (1978)
Work experience and qualifications:
Higher School of Textile in Varaždin, Assistant – Chemistry Practicals;
1978 - Higher School of Textile in Varaždin, Lecturer;
1987- University of Zagreb, Faculty of textile Technology, Department in Varaždin, Assistant;
1997- Lecturer, 2003 – Senior Lecturer in the field of Technical Studies, scientific area of technology for the courses in the "Technology of Print" and "Technology of Dying". The mentor of numerous graduation papers. Participated in scientific and research projects. Several scientific and professional works published. Participated at Croatian and international conferences.

Last Appointment Date:	2 June 2003

List of qualifying works:

Đ.Parac-Osterman, B.Karaman, Lj. Dugan: Izbor vezivnog sredstva v pigmentnom tisku, Tekstilec 32 (1989) 115-119 (WTA)

Đ. Parac-Osterman, Lj. Dugan: Omekšivači u pigmentnom tisku, Tekstil 44 (1995) 355-360 (WTA; CA)

Đ.Parac-Osterman, Lj.Dugan: Utjecaj finoće sita u tekstilnom tisku - ekološki aspekt, 14-ti međunarodni Znanstveno tehnički simpozij intergrafike, Zagreb 1996.

Lj. Dugan, I.Soljačić: Sprečavanje oštećenja vune u visokotemperaturnom postupku, Tekstil 32 (1983) 703-715 (WTA,CA)

Đ.Parac-Osterman, Lj.Dugan ; ITMA 95- Tekstilni tisak u zaštiti okoliša
Tekstil 45 (1996) 76-83 (WTA, CA)

List of works in the last five years:

Đ.Parac-Osterman, N.Tkalec, Lj.Dugan, A.M.Grancarić: Influence of Staphylococcus Epidermis Kind HD on Wool Fibre, Symposium on Biotechnology in Textile Industry,

Portugal 2000.
Đ.Parac-Osterman, Lj. Dugan, A.Sutlović; Utjecaj kemijske konstitucije bojla na zaštitu od ozona i sunčevih svjetlosti u atmosferskim uvjetima, 1. Hrvatska konferencija Ekoinženjerstva 2002 , Plitvička jezera 22-24 listopada 2002.
Đ.Parac-Osterman, Lj. Dugan; Utjecaj strukture poliamidnih vlakana na bojadisarska svojstva, Polimeri 23(6)146-150, 2002
Đ.Parac-Osterman, V. Tralić-Kulenivoić, Lj. Dugan, M. Gorenšek; Zaštitna svojstva obojenog vunenog vlakna od UV zračenja; Međunarodna tekstilna konferencija o dizajnu odjevanja - Čarobni svijet tekstila, Listopad 2004, Dubrovnik, Hrvatska

Name:	Vera Friščić
Institution:	Faculty of Textile Technology, Department in Varaždin
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Biography:

I was born on 2 February 1945 in Varaždin, where I finished Grammar school in 1964. That year I enrolled into the Higher Textile School in Varaždin – Department of Chemistry and graduated in 1967. Since 1 October 1966 (even before receiving my Diploma), I have been continuously working with the same institution, which in 1983 was integrated to the Faculty of Textile Technology in Zagreb as their Department in Varaždin. In 1978, I graduated from the Faculty of Textile Technology in Zagreb and in 1986, I received my Master's Degree. Throughout the years I have been working as the Assistant and the Lecturer of the courses Textile Fibres and Textile Testing and on 19 December 2002, I was appointed the standing position of the Senior Lecturer for the stated courses which I still teach today.

Last Appointment Date:	19 December 2002

List of qualifying works:

Friščić V.,D.Raffaelli:Istraživanja termčkih svojstava poliesterskih vlakana,Tekstil 36(7)1987

Friščić V.,B.Vuljanić:Primjena tekstilnih vlakana u medicini, Tekstil 38(2)1989

Friščić V. I sur.:Vlakna specjalnih svojstava,Zbornik savjetovanja SITTH i ITO, Zagreb 29.-31.01.1991.

Friščić V., B.Klaić:Fotodegradacija sntetičkih vlakana, Tekstil 40(12)1991

Friščić V.,B.Vuljanić:Tekstilna vlakna(kvalitativna analiza),skripta vježbe za studente TTF,1995

List of works in the last five years:
Hainš N.,V.Friščić,D.Gordoš:Ispitivanje elektrostatičkih svojstava tekstilija prevučenih poliuretanom, namjenjenih za zaštitnu odjeću,International Journal of Clothing Science and Technology 15(3-4)250-257(2003).

Teacher data

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Curriculum vitae:

Ana Marija Grancaric holds her B.Sc. (1967) in Chemical Engineering, M.Sc. (1974) in Textile Engineering, and Ph.D. in Textile Technology, University of Zagreb (1979). SDC Chartered Colorist (C.Col.) SDC Fellow (FSDC) has received in 2001. Currently, at Facaulty of Textile Technology at University of Zagreb she is full professor of Textile Finishing and Vice Dean for Science and International Relations. She has published 3 books, 60 papers in refeered journals and 59 paper presented to scintific meetings.
Her mean fields are electrokinetic charge and surface free energy of textiles, cotton mercerization and cationization, quenching of FWA fluorescence, sunprotected and antimicrobal finishing of textiles, bioscouring of cotton.
She was the leader of two bilateral projects, one with University of Leicester (UK), another with Unilever Development Center and recently with University of Lubiana (Slovenia). She is the Croatian coordinator of EUREKA project entitled SUNPROTEX. From 1989. to 1994. she was the Headn of Chemical Department at Faculty of Textile Technology.

Ana Marija Grancaric has collaboration with seven researches in European and USA textile departments, and Institutes, with David P. Bishop and Jinsong Shen at DMU, Leicester; Mario Lima at University of Minho, Gimarais; Richard Kotek at NCSU Raleigh, NC; Emil Chibowski at Maria Curie-Sklodowska University (Lublin, PL); Judith Borsa at Budapest University of Technology and Economics, Iuliana Dumitresku at Certex in Budapest (RO) and with all AUTEX (Association of European Textile Departments) coordinators.
She is the member of Croatian Academic of Technical Science, AATCC (Raleigh, NC), SDC (Bradford, UK), AUTEX coordinator, the member of Croatian Association of Textile Engineering, Craotian Chemical Society, Society of Plastic and Ruber Engineering and others. From 1999 to 2002 she was SDC Council member, admitted as Chartered Colourist and SDC Fallow in 2001.

Date of last election:	2001

Refferent publications of lecturer:

Grancarić, A.M., N. Kallay, "Kinetic of Polyester Alkaline Dissolution - Effect of Temperature and Cationic Surfactants", Journal of Applied Polymer Science 49 (1993) 175

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Grancarić, A. M.; et al.: "Mercerization of Cotton for the New Properties", Proceedings of 225th ACS National Meeting, New Orleans, SAD : ACS Organisation, 2003. 200-205
Grancarić, et.al.: Application of a Thin-layer Wicking Method for the Evaluation of Scouring and Bleaching Regimes for Flax-blend Yarns, Book of Proceedings of the ITC&DC, 2002. 312-317
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Grancarić, A.M., Pušić, T., Soljačic, I., "Mercerization of Cotton for the New Properties", Proceedings of 225th ACS National Meeting, New Orleans, SAD, March 01-05. 2003.
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Grancarić, A.M., A. Tarbuk, I. Jančijev, "Dyeing Effects of Cationized Cotton", ArgenColor2004, Buenos Aires 9 –12 November 2004.

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Curriculum vitae:

Prof.dr.sc. Darko Grundler was born in Zagreb on 13th December 1949 and now is permanently situated in Kutina. He is Croat and has Croat citizenship. He finished elementary school and gymnasium in Zagreb. He studied at University of Zagreb, Electrotechnic faculty where he graduated 1972. He served army during 1973 and studied postgraduate studies on University of Zagreb, Electrotechnic faculty where during 1974-1976 where he achieved title Master of Science in field of electrotehnic. From 1974-1976 he is employed as teacher at Srednjoškolski centar u Kutina. From 1976 he is employed in factory SELK with various appointments from production engineer to technical manager. From 1990 he works at University of Zagreb, Faculty of textile technology where he teaches computer science. He achieved title doctor of science at Faculty of Electrical Engineering and Computing, Zagreb with dissertation "Genetic algorithm optimized fuzzy multilevel process control". During whole his professional work he was involved in many scientific and professional associations and events and was member of various program comities.

For the book "Osobna računala – građa i primjena" he was awarded with award "Najbolji u kategoriji stručna literatura za pojedinačno izdanje "Osobna računala - građa i primjena" za 1993. godinu po izboru časopisa INFOTREND" (best book in category professional literature). Darko Grundler speaks, read and write English language. Darko Grundler is married and father of one daughter. In his spare time he mountaineer (member of HPD "Jelengrad" from Kutina, he write and publish mountaineering articles, is agile in promotional activities to popularize mountain Moslavačka gora.

Date of last election:	20.09.2004.

Referent publications of lecturer:

Darko Grundler, Primijenjeno računalstvo, Graphis, Zagreb , ISBN 953-6647-03-6, 2000, 524 str., Sveučilišni udžbenik prema odluci Senata Sveučilišta u Zagrebu br. 02-275/1-1998 od 3. lipnja 1998.

Darko Grundler, Diana Franulić-Šarić i Tomislav Rolich, Primijenjeno računalstvo - izabrani primjeri, Graphis, Zagreb , ISBN 953-6647-26-5, 2000, 168 str., Sveučilišni priručnik prema odluci Senata Sveučilišta u Zagrebu br. 02-1669/1-1997 od 28. listopada 1997.

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List of papers in last 5 years:
Darko Grundler, Coordinated genetic-algorithm control, Surveys on Mathematics for Industry, Springer-Verlag 2000, (2000), 9, str. 179-185
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Darko Grundler, Tomislav Rolich, Evolucijski algoritmi (II) – Primjena, Automatika, KoREMA, Zagreb, 2001, (42), br. 3-4, str. 133-142
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Darko Grundler i Tomislav Rolich, Efficiency of recombination operator in evolution strategies, Proc. of the 11th Int. DAAAM Symposium "Intelligent Manufacturing & Automation: Man-Machine - Nature", 19-21st October 2000, Opatija, Croatia, 2000, str 407-408
Darko Grundler i Tomislav Rolich, Qualitative visual presentation of evolution algorithms GECCO-2000, Genetic and evolutionary computation conference, July 8-12, 2000, Las Vegas, Nevada, USA, str. 117-124
Darko Grundler, Primijenjeno računalstvo, Graphis, Zagreb , ISBN 953-6647-03-6, 2000, 524 str., Sveučilišni udžbenik prema odluci Senata Sveučilišta u Zagrebu br. 02-275/1-1998 od 3. lipnja 1998.
Darko Grundler, Diana Franulić-Šarić i Tomislav Rolich, Primijenjeno računalstvo - izabrani primjeri, (III. prošireno i izmijenjeno izdanje), Graphis, Zagreb , ISBN 953-6647-36-2, 2002, 204 str., Sveučilišni priručnik
Darko Grundler, Kako radi računalo, PROMIL, Varaždin, 2004, ISBN 953-7156-06-0

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1973. Dipl. Ing. on Computer Sciences ("Graphical station"), from Faculty of Electrical Engineering, University of Zagreb.
1978. Mr. Sc. on Electronic ("Synchro - to digital conversion"), from Faculty of Electrical Engineering, University of Zagreb.
1992. Dr. Sc. on Electrotrical Engineering ("An approach to error correcting coding for hidroacoustical communication channels"), from Faculty of Electrical Engineering, University of Zagreb.
Non formal education and training
2003/2004 "Active Learning and Critical Thinking in Higher Education", Forum for Freedom in Education
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Date of last election:	2001

Referent publications of lecturer:

G.Hudec "Measurements and automatic process control" , Zagreb 2004, Tekstilno tehnološki fakultet

Predrag Vukadin, Goran Hudec, "Acoustic Telemetry System For Underwater Control", IEEE J. on Oceanic Eng., Vol. 16, No. 1. January 1991., pp 142 - 145.

Goran Hudec, Željko Dobranović, "Toghness Increase in Command and Control Systems", XXIX Congress of the International Astronautical Federation, pp. 88-89.Dubrovnik, 1978.

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Ivana Salopek, Goran Hudec, Marija Vesna Potočić Matković, “Design of educational web materials”, CE04, MIPRO 2004, Opatija, 2004.
Ivana Salopek, Goran Hudec, Maja Stracenski, “The role of web design in product promotion and education for engineers” 4th International DAAAM Conference "INDUSTRIAL ENGINEERING - INNOVATION AS COMPETITIVE EDGE FOR SME",Tallinn, 2004.
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Goran Hudec, Šandor Dembitz, Boris Muvrin, «Remote sensing data in environmental pollution monitoring», 5.th International Symposium & Exibition on Environmental Contamination in Central & Eastern Europe, Prague 2000
Marija Vesna Potočić, Goran Hudec, Natali Krmpotić, "Textile Factory on Internet - a Student Project"., Proceedings of the 11th International DAAAM Symposium, pp. 391-392., Opatija 2000.
Goran Hudec, Šandor Dembitz, "JERS RADAR data in environment pollution monitoring - Zagreb example", 10th Mediterrannean Electrotechnical Conference, MElCon 2000, Vol II, pp. 835-838, Cyprus, 2000.

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Biography:

I was born on 15 May 1946 in G. Stubica. I graduated from secondary school in 1965 in Zagreb, and at the Faculty of textile technology in 1971. I defended my Master's thesis in 1983, under the title of "Influence of Inorganic Salts to the Effects of Optical Bleaching of Wool and Polyamide". After graduation i volunteered at the Institute of Thermodynamics of the Faculty of Textile Technology in Zagreb. From 1973 to 1977 I worked in company VIS in Varaždin as an intern, and later as the shift supervisor assistant in the Finishing Department. Since 1977 I have been working first as the Assistant, and, since 1978, as the lecturer at the Higher Textile School in Varaždin. In 1983 I was appointed the lecturer and in 1997 the Senior Lecturer at the Faculty of Textile Technology, Department in Varaždin. I participated in the project called "New Processes in Improving Textile" and "Nature-friendly Processes of Finishing Materials". I am the member of the Croatian Association of Textile Engineers, the AMACIZ and the Croatian Society for Tensides.

Last Appointment Date:	19 December 2002

List of qualifying works:

Hainš N., I. Soljačić : Utjecaj anorganskih soli na efekte optičkog bijeljenja vune i poliamida, Tekstil 33 (1984) 10, 707-723

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Curriculum vitae:

PhD. Drago Katović, born on 24 th December 1941 in Zagreb, meried with two sons. He grauated in 1977, and got his Ms. degree in1982, recived his PhD in 1985 at The Faculty of Technology University of Zagreb. In 1982 he worked as Research Assistant, in 1986 as Assistant Professor, in 1990as Associate Professor and 1996 as Full Professor on The Faculty of Textile Technology University of Zagreb. He conducted two sciencific project suported by Ministry of Science. The main object of this work is ecological phisical and chemical proceses of textile finishing, chemical treatment of wood, and microwave in textile finishing. He is cooautor of three textbook. Recently hi is teaching as professor at the Faculty of Textile Technology, and at the Faculty of Foresty for graduate and postgraduate students. From 1996till 1998 he was vicedean, and from 1998 till 2002 he was the dean of Faculty of Textile Technology University of Zagreb.

Date of last election:	15.1.2002

Refferent publications of lecturer:

Soljačić I., A.M.Grancarić, S. Pećina, D.Katović :Untersuchungen über die Wirkung von optischen Aufhellern in Waschmitteln Textilveredlung 15 (1980) 1, 242-246

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Bischof Vukušić S., Katović D., et al.: DP Finishing with Polycarboxylic Acid and some Phosphono-based Catalysts, AATCC Inter. Conf., Winston-Salem, USA, 17-20 September 2000, CD-ROM
Katović D.,Bischof Vukušić S., :Application of EM Waves in Durable Press Finishing with PCA AATCC International Conference, Winston-Salem, USA, 17-20 September 2000 CD-ROM
Bischof Vukušić S., Katović D.:Possible Substitution of Conventional Durable Press Finishing Reagents and Methods Symp. "The 81th World Conf. of the TI. Melbourne, Australia,1-4 April 2001
S. Bischof Vukušić; Katović D.: Influence of Drurable press finishing on shade changes of dyed cellulose material" Symp.,82th World Conf. of the TI. Cairo,Egipt23.- 27 March 2002
. Katović D., Bischof Vukušić S., Veršec J.:The Application of microwave energy in durable press finishing,1th International Textile Clothing &Design Conference, Dubrovnik 06.10.2002 p. 283 - 287
Bischof Vukušić S., Katović D.: Textile finishing treatments influeced with microwaves, Symposium "The 83th World Conference of the T. I., Shangai, China 23-27 May 2004. Proc. Vol 3 p.1165–1169.
Katović D., Bischof Vukušić S.:Microwave device for drying and finishing of textiles Symp. "The 83th World Conference of the Textile Institute", Shangai, China 23-27 May 2004., Proc. Vol 3, 1145–1147

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Biography:

He was born in 1943 in Presečno, near Novi Marof. He finished Secondary Textile Industry School in 1961, Secondary Textile Technology School in 1967, Higher Textile techology School in 1971. From 1962 to 1972, he worked in Vateks Varaždin, department of Ready-made clothes, as a supervisor. From 1972 to 1973, he was the head of Practical Classes at the Secondary School for Professional Education of Textile Engineers in Varaždin. From 1974 to 1977 he worked in the Higher Textile Technology School in Varaždin as the Practicals Head of the course of "Garment Manufacturing Technology", "Work Study", and “Organization of Ready-made Garment production. In 1978, he graduated from the Faculty of textile technology in Zagreb and was appointed the Lecturer for the courses of "Garment Manufacturing Technology" and "Work Study". In 1984, the Higher Textile technology School was merged with the Zagreb Faculty of Textile Technology. In 1987, he received his Master’s degree at the Zagreb Faculty of Textile Technology and was appointed the Lecturer for the courses of the "Garment Manufacturing Technology” and “Garment Design”. After establishing of the Faculty of Textile Technology of the University in Zagreb in 1993, he was appointed the lecturer for the courses of the "Garment Manufacturing Technology", "Garment Manufacturing Technology Processes”,
"Garment Design", "Garment Modelling", "Garment Manufacturing Technology Operations”. In 1998, he was appointed the Senior Lecturer. Since 1990, he has been registered in the registry of Researchers of the National Committee for Science, Technology and Computer Sciences as a Scientific Assistant. He wrote 16 works and one course material. From 1979 to 2004, he mentored 416 Level 6 Diploma Essays. He was the head of two student’s works which received the Rector's Award. From 2000 to 2005, he was the lay judge at the District Court in Varaždin and the court expert at the Municipal Court in Varaždin.

Last Appointment Date:	

List of qualifying works:

T. Koren, B. Knez: Struktura tehnoloških operacija u procesu šivanja odjeće, Tekstil 34(12) 953-981 (1985.)

T. Koren, B. Knez: Zavisnost strukture tehnoloških operacija šivanja odjeće i vremena izrade, Tekstil 34(12) 953-981 (1985.)

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List of works in the last five years:
V. Strmečki, T. Koren, M. Cerovec: Utjecaj konstrukcije tkanine na smicanje niti u području šivaćeg šava, Tekstil 48(2) 71-76 (2000.)
T. Koren: Prozvodno-tehničke inovacije u procesu glačanja odjeće na IMB 2000. Tekstil 50(1) 17-22 (2001.)
T. Koren: Nalaz provođenja dokaza vještačenjem na okolnost nastale štete prema dokumentaciji priloženoj u spisu broj: XVIII.P.1250100-9 kod Općinskog suda u Varaždinu, Varaždin, 18.12.2001.
T. Koren: Utvrđivanje strukture zastoja i gubitaka vremena u procesu proizvodnje odjeće, Zbornik radova međunarodnog znanstvenog simpozija "Stvaralački potencijali u funkciji društveno-ekonomskog i kulturnog razvoja sjeverozapadne Hrvatske, Hrvatska akademija znanosti i
umjetnosti, Zavod za znanstveni rad Varaždin, Varaždin, 21-22. studeni 2002. str. 505-518

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Curriculum vitae:

I was born 2 September, 1953 in Škabrnja. After leaving the textile school in Zadar I enrolled in Polytechnic, Department of Textile Technology, Zagreb, where I graduated in 1975. In 1977 I was employed in the textile fabric Tekstilni kombinat Zagreb, where I worked until 1993 when I changed to the Faculty of Textile Technology, Zagreb. While working, I studied at the Faculty of Textile Technology where I graduated in 1982. I enrolled in postgraduate study, and in 1992 I won my master degree with the thesis: "Investigation of interdependence between yarn breaks and oscillating force in yarn winding". When I was employed at the Faculty, I worked as an assistent iand taught weaving courses till 2000 when I was elected lecturer. I won my doctor's degree in 2000 entitled: "Continual determination of size pick-up on yarn based on substance balance". My mentor and adviser was PhD Vladimir Orešković, professor. Since 2001 I have been working as an assistant professor and teach weaving courses. Currently I am a chief research worker of the scientific project "Investigations of influential parameters by designing woven fabrics in CAD-CAM-weaving" supported by the

Ministry of Science, Education and Sports.

Date of last election:	1 July, 2001

Referent publications of lecturer:

Kovačević S.: Priprema pređe, sveučilišni udžbenik, Teksitlno-tehnološki fakultet, 2002

Kovačević S., Dimitrovski K., Hađina J.: Procesi tkanja (udžbenik u pripremi)

Kovačević S.: Ručno tkanje, stručna knjiga, Centar za kreativne alternative & Prometej, 2003.

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Kovačević, Stana; Penava, Željko: Impact of Sizing on Physico-mechanical Properties of Yarn. // Fibres & Textiles in Eastern Europe. 48 (2004) , 4; 32-36 (članak, znanstveni rad).
Kovačević, Stana; Grancarić, Ana Marija; Stipančić, Mladen: Optimiranje škrobog nanosa. // Fibres&Textiles in Eastern Europe. 10 (2002) , 3; 63-67 (članak, znanstveni rad).
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Kovačević, Stana; Orešković, Vladimir: Time Analysis in the Preparatory Operations of Warp and Weaving. // Fibres & Textiles in Eastern Europe. 7 (1999) , 4; 50-53 (članak, znanstveni rad).
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Ujević, Darko; Kovačević, Stana: Impact of the Seam on the Properties of Technical and Nonwoven Textiles for Making Car Seat Covering. // International NONWOVENS Journal. 13 (2004) , 1; 33-41 (članak, znanstveni rad).
Kovačević, Stana; Hajdarović, Krešo; Komljenović, Nikola: Untersuchung des Webmaschinennutzeffektes und der Gewebequalität. // Melliand Textilberichte. 82 (2001) , 5; 365-366 (članak, znanstveni rad).
Dimitrovski, Krste; Gabrijelčić, Helena; Kovačević, Stana; Nikolić, Momir: The influence of weft yarn characteristics on tensile strength of woven fabrics in warp direction // 2nd International Textile, Clothing and Design Conference, Dubrovnik, october 3
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Ujević, Darko; Kovačević, Stana; Hađina, Josip; Karabegović, Isak: Influence of Seam on Deformation of Yarn in Woven and Knitted Fabrics // Magic World of Textiles / Dragčević Z. (ur.), Zagreb : Faculty of Textile Technology, University of Zagreb, 2002. 4
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Kovačević, Stana: Analize rada poslužitelja i zastoja na konvencionalnim i suvremenim strojevima u mehaničkoj preradi. // Tekstil. 50 (2001) , 7; 245-250 (članak, strucni rad).

Teacher data

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Curriculum vitae:

Alka Mihelić-Bogdanić , born in Zagreb (1949) graduated in Chemical Engineering at the Faculty of Technology, University of Zagreb (1972). Afterwards she obtained Master's Degree (1975) and Ph.D. (1977)in Chemical Engineering at the same faculty. From 1972 to 1978 she was employed at the Faculty of Technology as an assistant. From 1978 she has been emplpyed at the Faculty of textile technology, Department of mechanical engineering as assistant, assistant professor (1987) and presently full professor in permanent function since 2002. She taught several courses in undergraduate and postgraduate courses at the Faculty of Textile Technology as well as at the Faculty of Technology, University of Zagreb. Alka Mihelić-Bogdanić published more than hundred papers in international and domestic journals and proceedings and she also participated as an active participant in numerous international conferences. Her main research interests include technical thermodynamics, energy systems analysis in particular industrial energy conservation and improving energy efficiency. She participates in many scientific projects.

From 1984 she has been engaged in interuniversity co-operation with the Karl Franz and Technical University Graz, Austria, in the field of alternative sources and Stirling engine. Alka Mihelić-Bogdanić is a member of many international and domestic societies like Solar energy Society, KoREMA, Croatian Energy Society etc. She is a member of the editorial board of the Textile journal. Also, she was a member of the scientific committee of the International Conference Alternative Sources,Dubrovnik (1987), International Conference Solar energy Dubrovnik (1989) and International Congress Energy and the Environment, Opatija (1994,1996, 1998, 2000, 2002, 2004). Together with Rajka Budin, Alka Mihelić-Bogdanić got the Josip Juraj Strossmayer award for the book Osnove tehničke termodinamike, Školska knjiga,Zagreb, as the best scientific work in the field of technical science in 2002.

Date of last election:	full professor-permanent function 12 March, 2002.

Referent publications of lecturer:

Knjiga: R. Budin, A. Mihelić-Bogdanić: Osnove tehničke termodinamike, Drugo, dopunjeno i izmijenjeno izdanje, Školska knjiga, Zagreb, 2002.

R. Budin, A. Mihelić-Bogdanić, Generalized thermodynamic calculation for CHP generation, Energy, Vol.18, No 7. (1993), 791-795.

A. Mihelić-Bogdanić, R. Budin, Heat recovery in thermoplastics production, Energy Convers. Mgmt. Vol. 43, No 8, (2002), 1079-1089.

A. Mihelić-Bogdanić, R. Budin, The application of heat recovery in low temperature Stirling engine, Proc.of the 11th ISEC, Rome, (2003), (285-288).

A. Mihelić-Bogdanić, R. Budin, I. Sutlović, V. Filipan, Efficient use of energy in selected textile industry plants, 2nd Inter. Textile, Clothing and Design Conference,Dubrovnik, (2004),(1002-1007).

List of papers in last 5 years:
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V. Filipan,R. Budin, A. Mihelić-Bogdanić, Improvements of dyeing processes by heat recovery, Proc. of the World Renewable Energy Congress VI (WREC 2000),Brighton,(2000),(2626-2629).
I.Sutlović,A.Mihelić-Bogdanić R. Budin, Energy analysis of process in garment industry, Annals of DAAAM for 2000&Proc.of the 11th International DAAAM Symposium, Opatija (2000), (453-454)
R.Budin, A.Mihelić-Bogdanić,I.Sutlović,V.Filipan,Kiln hot air recovery,Proc.of the Inter.Congress, Energy and Environment 2000,Opatija (2000), (287-290).
I.Sutlović,R.Budin, A.Mihelić-Bogdanić,V.Filipan, Energy saving in process of HDPE production, Proc the16th Inter.symposium of heating,refrigerating and airconditioning,Zagreb(2001),(338-342).
R. Budin, I. Sutlović, A. Mihelić-Bogdanić,Kiln flue gas heat recovery, Proc. of the Fifth International Conference on New Energy Systems and Conversions, Shanghai (2001), (375-377).
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A. Mihelić-Bogdanić, R.Budin,Heat recovery in thermoplastics production, Energy Convers. Mgmt, Vol 43 , No 8, (2002) , 1079-1089.
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A. Mihelić-Bogdanić, R. Budin, I Sutlović, Solar Application in Thermoplastics Production, Proc. of the World Renewable Energy Congress,Köln, (2002), 388/1-5.
V. Filipan, R. Budin, A. Mihelić-Bogdanić, The possibilities of energy saving in textile industry, 1st Inter.Textile,Clothing and Design Conference,Book of Proc., Dubrovnik, (2002), (682-687).
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A.Mihelić-Bogdanić,R.Budin,I.Sutlović, Condensate and Flue Gases Heat Recovery,Proc.of the Inter.Congress,18th Scientific Conf .on Energy and the Environment,Opatija(2002),Vol.II(19-24).
A. Mihelić-Bogdanić, R. Budin, The application of heat recovery in low temperature Stirling engine, Proc.of the 11 th ISEC, Rome, (2003), (285-288).
R.Budin, I. Sutlović, A. Mihelić-Bogdanić, F. Briški, Smanjenje toplinskog i kemijskog opterećenja okoliša u procesu proizvodnje HDPE-a, Sigurnost, Vol 45, No 1, (2003), 1-11.
I. Sutlović, R.Budin, A. Mihelić-Bogdanić, V. Filipan, Energetsko vrednovanje procesa polimerizacije, Sigurnost, Vol 46, No 2, (2004), 97-108.
V.Filipan,R.Budin,I.Sutlović,A.Mihelić-Bogdanić,The possibilities of condensate reusing in textile finishing processes, 2nd Inter.Textile,Clothing and Design Conf. Dubrovnik,(2004),(992-997).
A. Mihelić-Bogdanić, R. Budin, I. Sutlović, V. Filipan, Efficient use of energy in selected textile industry plants, 2nd Inter. Textile, Clothing and Design Conference,Dubrovnik, (2004), (1002-1007)
V.Filipan,R.Budin,A. Mihelić-Bogdanić, I. Sutlović, Energy efficient lye recovery system, Proc. of the International Congress, Energy and the Environment 2004,Opatija (2004), Vol. II (99-106).
A.Mihelić-Bogdanić,R.Budin,I.Sutlović,Heat recovery and air preheating in selected textile process,Annals of DAAAM for 2004 & Proc. of the 15th Inter. DAAAM , Vienna (2004), 289-290.

Teacher data

Surname, name:	Budimir Mijović
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Curriculum vitae:

Teacher data Personal data: Name (in full):Prof. Budimir Mijović, Date of Birth:18th October,1956.Present Position:Professor. All academic degrees obtained:Master's degree: year: 1983, name of the academic degree: M.Sc. Doctoral degree: year: 1987, name of the academic degree: D.Sc.
All stages of my university education's: Diploma degree: time: from 1975 till 1980 I studied. Name of university: Faculty of Mechanical Engineering, University of Zagreb. Master's degree: time: from 1980 till 1983 I studied.name of university: Faculty of Mechanical Engineering, University of Zagreb. Doctoral degree: time: from 1983 till 1987 I studied. name of university: Faculty of Mechanical Engineering, University of Zagreb.Periods of working, study and done research (in chronological order) :Faculty of Textile Technology,1992-2003, Associate Professor,University of Zagreb, Faculty of Textile Technology, 2003-2005, Professor, University of Zagreb
Specialisation:- Newtonian and non-Newtonian fluid,- steady and pulsatile flow,- laser-Doppler-anemometer method,- numerical methods,- turbulent fluid flow,- biofluid mechanics.

Research Publication, International journals/advanced 8, research text/encyclopaedia National Journals 14,Presentation of research papers15 (Oral) and invited review talks in 15 (Poster),international conferencesPresentation of research papers20 (Oral) and invited review talks in 20 (Poster)national conferences
Honours and Distinction:- Fellow, The New York Academy of Science, 1993-98.- The Biomedical Engineering Society, 1993-98.- The American Society of Mechanical Engineering (ASME), 1995-98.- The American Physics Society (APS), 1993-96.- The European Mechanics Society (EUROMECH), 1994-98.- The German Association for Applied Mathematics and Mechanics (GAMM), 1994-98.- Many of Croatian societies.

Date of last election:	2004

Refferent publications of lecturer:

Liepsch, D., Poll, A., Mijović, B., Pflugbeil, G., Flow studies in rigid and elastic Y-junction models using Newtonian and non-Newtonian fluids, Vol. 22, Advances in Bioeng., ASME 1992, pp 227-280.

Mijović, B., et al.: Application of ergonomics principles of burdening of the worker in the procces of clothes cutting, Collegium Antropologicum, 22, (1998.), 229 – 240, (UDC 331.101.1:614.89)

Mijović, B.,et al.: Visualisation of Anthropometric Measures of Workers in Computer 3D Modeling of Work Place, Collegium Antropologicum, 25, (2001.), 2, 639-650 (UDC 331.101.1:519.6)

B. Mijović, et al.: 3D Computer Modeling of Sitting Work Place, Collegium Antropologicum, 26, suppl. (2002.), 1, 189-203 (UDC 572. 087:331.101.1)

Mijović, B., Džoklo, M., Numerical model of a Herz contact between two elastic solids, International Journal for Engineering Modelling, 13, (2000.), 3-4, 111-117 (UDC 519.61:539.3)

List of papers in last 5 years:
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B. Mijović, Ujević D., Skoko M., Baksa S., 3D Computer Modeling of Sitting Work Place, Collegium Antropologicum, 26, suppl. (2002.), 1, 189-203 (UDC 572. 087:331.101.1)
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Mijović, B., Liepsch, D., Experimental flow studies in an elastic Y-model, Technology and Health Care, 11 (2003), 115-141.

Teacher data

Surname, name:	Nikolić Gojko
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Curriculum vitae:

University professor Gojko Nikolić Ph. D. M. E. was born in Šibenik in 1939. He graduated at the Faculty of Mechanical Engineering in Zagreb 1962, where he won his master's degree in 1972, and defended Ph.D. thesis in 1985 . He taught at that faculty for more then 30 years, and now he does the same job at the Faculty of Textile Technology, where he was the Head of the Department of Clothing Technology last four years. Now he is the Head of Research Center and Textile Technology and Fashion Transfer. In the same period of time he worked in the industry as a leading project manager, and as the head of project managers team for special purpose machines and technology processes. He was also production manager and technical manager of some major firms. He is the author of ten professional technical books, six university lecture books, numerous handbooks and more than 35 published scientific papers. He received a lot of awards and medals for his work relating to the university and industry progress.

Date of last election:	Professor 2002

Referent publications of lecturer:

Nikolić G.:Pneumatic Control, university lecture book, 3. edition, Liber, Zagreb 1990. ISBN 86-329-0242-3

Nikolić G.:Mechanized and Automatisated Assambly, university lecture book, 2. edition, Liber, Zagreb 1989. ISBN 86-329-0192-3

Nikolić G. Šomođi Ž.: Exercises for Mechanisms and Automatization of Machins for Clothing Production, university lecture book, TTF & Zrinski d.d., Čakovec 1999. ISBN 953-155-048-4

Nikolić G.: Mechanisms of Machines for Clothing Production, university lecture book, TTF & Zrinski d.d., Čakovec 2000. ISBN 953-155-050-6

Nikolić G.:Fundamental of Automatisation of Machins for Clothing Production, university lecture book, TTF & Zrinski d.d., Čakovec 2001. ISDN 953-155-056-5

List of papers in last 5 years:
Nikolić G.: Investig. of Profitability Threshold of Various Control Techniques for the Devices in Garment Manufacture, Annals & Proceedings of 10th Inter. DAAAM, 1999, Vienna, 383-384.
Somođi Ž., Nikolić G.:Numerical Modelling of Mechanical Grip On Thin Rigid-Plastic Plates in Automated Handling, Proc.of the 3rd ICCSM, Sept. 28–30, 2000. Cavtat, 169 – 175.
Nikolić G., Šomođi Ž.:Investigation on the Vacuum transport in Automated Sewing Process, 3rd Intern.Conference IMCEP 2000, Oct. 11-13, 2000 Maribor, Slovenia, Proceedings, 170–176.
Nikolić G., Šomođi Ž.:Investig. of Grip Param.for Autom. Handling Using Frozen Textile in Clothing Prod., Annals of DAAAM of 10th Intern. DAAAM Symp.19-21.Oct.2000,Opatija,333 - 334
Nikolić G., Šomođi Ž., Agić A.:Loading Capacity and Bending Char. of Textile Frozen for Autom. Manip., Annals of DAAAM for 2001 & Proc. of 11th Intern.DAAAM, Jena 2001,325 – 326.
Nikolić G., Šomođi Ž.:Frozen Textile Workpieces- a Step Towards Robotisation of Clothing Production, ÖIAZ (Österr. Ing. - und Archit.- Zeitsc.), 3/2001 A-1010 Wien, 2001. 92 – 95.
Nikolić G.,Šomođi Ž.,Franulić-Šarić D.:Mechanical properties of sewing stitch performed in frozen state, 1th Int. Conf. ITC&DC 6-9.Oct. 2002 Dubrovnik, 380 – 383.
Kunica Z.; Vranješ B.; Nikolić G.; Tomić I.:On Disign Procedure of Automatic Assembly System, Annals of DAAAM for 2002of 13th Intern. DAAAM, Symp.Viena, 299-300.
Vraneš B.; Jerbić B.; Herman M.; Nikolić G.; Jokić A.: Application of Machine Vision in Auton. Robotic Assem. Sys., Annals of DAAAM for 2002 of 13th Intern. DAAAM, Symp.Viena, 603-604
Nikolić G., Šomođi Ž., Franulić-Šarić D.:Mechanical properties of sewing stitch performed in frozen state, Intern.Jurnal of Cloth. Science and Techn. Vol.15 No.3/4 2003.Northamton, 198-203.
Nikolić G., Šomođi Ž., Agić A.:Numerical analysis and optim. of grip geometry in automated transp.of textile and leather, 4rd Int.Conf. IMCEP 2003, Oct. 9-11, 2003 Maribor, Proc.101-107.
Ujević D., Nikolić G.:An on-line sophisticated system of investigating sewn seams in knitted fabrics, 4rd Intern. Conf. IMCEP 2003, Oct. 9-11, 2003 Maribor, Slovenia, Proc.267-271
Nikolić G., Šomođi Ž.: Numerical dynamic analysis of fabric transport in sewing process, Annals of DAAAM for 2003 of 14th Inter.DAAAM Symp. 22-25th October 2003, Sarajevo, BIH, 325-326.
Šomođi Ž., Nikolić G.:Dynamic model for estimating friction effect on to the sewing regularity, 2th Inter.Conf.ITC&DC «Magik Word of Textiles» 3.-6.Oct. 2004 Dubrovnik, 617-623
Nikolić G., Šomođi Ž.: Symulationand kinematic analysis of a sewing mechanism, Annals of DAAAM for 2004 & Proc.of 14th Intern.DAAAM Symp.3– 6th Nov. 2004, Viena, 317-318

Teacher data

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Curriculum vitae:

She graduated from the Faculty of Technolgoy of the University of Zagreb in 1970. Her first empoyment was at the textile company in Senj. In 1972 she as elected assistant at the Faculty of Technology and afterwards at the Faculty of Textile Technology. In 2000 she was elected full professor at the same faculty. She was a visiting professor at the Faculty of Technology in Banja Luka (1988-90). She teaches at the Faculty of Textile Technology, as a visiting professor at the Faculty of Graphic Arts and at the University of Maribor, Slovenia. She is a menotor of many diploma theses, 5 master theses and 2 doctoral theses. She published more than 60 scientific and professional papers. She is the manager of three projects: E!2983 TEXTILWELT, scientific 0117004 and bilaeral project Slovenija-Hrvatska. Her field of scientific interests is: color phenomenon in application and multimeda, phisical-chemical and dyeing properties of natural and chemical fibres, rheological propertiies in the system of ghickeners/printing pastes, discoloration of waste waters, impact of ozone in vitro and in vivo on the structure of dyed fibres, protection from UV radiation etc.

Her chief interests in scientific and reserarch work are: color psychology, dyeing with natural dyes and new digital techniques in textile printing.

Date of last election:	12 September 2000

Referent publications of lecturer:

B.Karaman, Đ.Parac-Osterman, V.Friščić; "Methods for Determination of Dyeing Properties of Polyester Fibres"Tekstil 38 (1989) 461-465 (WTA, CA) (Textile Progress,25 (1995)70-71 "Chemical Testing and Analysis")

Đ.Parac-Osterman, Lj.Dugan;" Utjecaj strukture poliamidnih vlakana na bojadisarska svojstva"; Polimeri, 23 (2002) 146-159

Đ. Parac-Osterman;"Bojadisarska svojstva PA 6 i PA 6.6 –izbor bojila" Savjetovanje za zaposlenike Yulona d.d. Ljubljana, Slovenija, Krapinske Toplice, 24-25. svibnja 2002. 1-8

Đ.Parac-Osterman, B.Karaman, J.Jovanović-Kolar; "Istraživanje kemijske kinetike u sistemu vuneno vlakno-reaktivno bojilo","Investigation Regarding Kinetics in the System Wool Fibre-Reactive Dyestuff" Tekstil 37 (1988) 521-526

Đ.Parac-Osterman,B.Karaman,Lj.Dugan; "Izbor vezivnog sredstva v pigmentnom tisku", "Choice of adequate pigment binder" Tekstilec 32(1989) 115-119

List of papers in last 5 years:
Đ.Parac-Osterman, M.Joanelli, V. Šimić;"Performance of Kubelka-Munk Theory on Low concentration Shades" 2th ITC&DC, Book of Proceedings of the International Textile Clothing & Design Conference, Magic World of Textiles, Dubrovnik, 6-9 october 2004., 782-787
Đ.Parac-Osterman, V. Tralić-Kulenović, Lj. Dugan, M. Gorenšek; "UV-Rays Blocking Properity of Dyed Wool Fabric" 2th ITC&DC, Book of Proceedings of the International Textile Clothing & Design, Dubrovnik, 6-9 october 2004. 437-442
Đ.Parac-Osterman, Lj.Bokić, V.Golob, B. Vojnović, V. Đurašević; "Decolouration of Textile Dyes Using natural Recourses" 2th ITC&DC, Book of Proceedings of the ITC&DC, Dubrovnik, 6-9 october 2004. 437-442
Đ.Parac-Osterman, A. Hunjet, J. Burušić;"Psychophysical Study of Colour", AIC2004, Book of Proceeding, Porto Alegre, Brazil, 3-5 november, 2004.
M. Brozović, N. Knešaurek, Đ. Parac-Osterman; "The Influence of Image Capturing Systems on Artwork Reproduction"Journal of Imaging Science and Technology, 48 (2004) 240-245
Đ.Parac-Osterman, M.Joanelli; "Performance of Lightness Calculations in Relation to Chromatic Discriminations" 3th World Textile Conference 3rd AUTEX CONFERENCE, Book of Proceedings, Gdansk, Poland, 25-27. june 2003. 122-125
Đ.Parac-Osterman, A.Sutlović; "Optimization of Conditions for Effective Coagulation/Floculation Decolorization of Textile Waste Water"3th World Textile Conference 3rd AUTEX CONFERENCE, Book of Proceedings, Gdansk, Poland, 25-27. june 2003. 7-10
Đ.Parac-Osterman, A.Sutlović, I.Soljačić; " Voda u oplemenivanju tekstila – sirovina i otpad" Tekstil, 52 (2003) 55-62
Đ.Parac-Osterman, M.Joanelli; "Quality Assurance in Digital Printind"AIC COLOR 2002 SI Color & Textiles, Book of Oroceedings, Maribor 28 –31.8. 2002. 327-331
Đ.Parac-Osterman, V.Šimić, A. Hunjet, M.Joanelli; "RAL System Reliability" AIC COLOR 2002 SI Color & Textiles, Book of Oroceedings, Maribor 28 – 8. 2002. 320-326
Đ.Parac-Osterman, A.Horvat, M.Pervan;"Bojadisanje vune prirodnim bojilima u svjetlu etnografske baštine Like""Dyeing Wool with Natural Dyes in the Light of Ethnological Hertage of Lika"Tekstil, 50 (2001) 339-344 (WTA, CA)
Đ.Parac-Osterman, Lj.Dugan;" Utjecaj strukture poliamidnih vlakana na bojadisarska svojstva"; Polimeri, 23 (2002) 146-159
Đ.Parac-Osterman, I.Soljačić, V.Golob; "Utjecaj obrade pamuka na bojadisanje reaktivnim bojilima", "The Impact of Cotton treatment an Dyeing with Reactive Dyes" Tekstil 49 (2000) 125-130
Đ.Parac-Osterman, B.Marčec-Škrtić, S.Bešenski: "Kriterij odabira reaktivnih bojila crnih tonova na osnovi koloristićkih vrijednosti" Tekstil 52 (2003.), 519-524
Đ. Parac-Osterman, M.Joanelli, A. Horvat;"Digital Test Printing"The 11th International DAAAM Symposium "Inteligent Manufacturing & Automation: Man-Machine-Nature" Croatia, Opatija 19-21.10. 2000. 333-356
Đ.Parac-Osterman, A. Hunjet, J. Burušić; "Psychophysical Study of Colour", AIC2004, Book of Proceeding, Porto Alegre, Brazil, 3-5 november, 2004.

Teacher data

Surname, name:	Pezelj, Emira
Institution:	University of Zagreb, Faculty of Textile Technology
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WWW address of personal page:	www.ttf.hr

Curriculum vitae:

Born in Zagreb, where she graduated from the high school and Faculty of Technology. Acquired Master's degree at Faculty of Technology, University of Zagreb, and awarded doctor's degree at the Faculty for Textile Technology, University of Zagreb.
Since 1974. continuously engaged at the Faculty of Technology, Institute for Textile and Clothing, where she performed quality control of textile products for purposes of textile and clothing industry , import – export companies, market inspectors, etc.
From 1986. to 2000. engaged in higher education courses as assistant, higher assistant, from 2000. lecturer and from 2003 onwards, assistant professor at the Faculty for Textile Technology, University of Zagreb.
The research is focused on textile raw materials (weathering, ageing and degradation induced by radiation, heat, chemical agents, modification of chemical and physical properties, influence of ultrasound on textiles in order to improve chemical and physical properties in an environment friendly way, development of the methods for characterisation of specific properties of the technical textiles).
She published numerous scientific papers in various journals and conference proceedings. Also a co-author of the book R.Čunko and E.Pezelj: Textile materials, Zrinski d.d., Čakovec 2002.

various journals and conference proceedings. Also a co-author of the book R.Čunko and E.Pezelj: Textile materials, Zrinski d.d., Čakovec 2002.
Currently teaches at the graduate, postgraduate and professional study level, where she was mentor to numerous graduation theses, one postgraduate and one doctor's these.
Participated in four scientific and research projects, one bilateral project and two technological projects. She was head of «Development of the Methods for Characterisation of Specific Properties of the Technical Textiles» project.

Date of last election:	2004

Referent publications of lecturer:

R. Čunko i E. Pezelj: Textile Materials, Zrinski d.d., Čakovec 2002.

M.Andrassy, E.Pezelj, R.Čunko: Reduction of Aging Tendency in p-Aramide Fibers Using ultrasound, J. of Appl. polym. Sci., 77 (2000) 2340-2345

E.Pezelj, R.Čunko: The Influence of Ozone as Air Pollutant on the Polypropylene (PP) Fibers Properties, Text. Resear. J., 70 (2000) 537-541

. R.Čunko, M.Gambiroža-Jukić, E.Pezelj: The Influence of Light on the Thermal Decomposition of Polypropylene Fibers, J. of Appl. Polym. Sci., 71 (1999) 2237-2244

R.Čunko, E.Pezelj, M.Andrassy: Developiong a Method of Defining Fibrillation Degree of Lyocell Fibres (Tencel), Tekstil 50 (2001) 290-296

List of papers in last 5 years:
M.Andrassy, E.Pezelj, R.Čunko: Reduction of Aging Tendency in p-Aramide Fibers Using ultrasound, J. of Appl. polym. Sci., 77 (2000) 2340-2345
M.Andrassy, R.Čunko, E.Pezelj:Investigations of static Charge in Textile Fabrics, Tekstil 49 (2000) 287-295
R.Čunko, E.Pezelj, M.Andrassy: Developiong a Method of Defining Fibrillation Degree of Lyocell Fibres (Tencel), Tekstil 50 (2001) 290-296
E.Pezelj, M.Andrassy, R.Čunko: Impact of Ultrasound Pre-treatment on Yarn Dimensional Changes in the Course of Thermal treatments, Tekstil 50 (2001) 497-500
R.Čunko, E.Pezelj, S.Ercegović, S.Jukić: Testing for Honeydew on Various of Cotton Fibres, Tekstil 52 (2003) 1-10
E.Pezelj, M.Andrassy, R.Čunko: Modern Technical Textiles- Specific Requirements on fibres, Tekstil 51 (2002) 261-277
M.Andrassy, E.Pezelj, J.Butorac: Povratak proizvodnji predivog lana, Tekstil 53 (2004) 385-391
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E.Pezelj, M.Andrassy, R.Čunko: Investigation of Hydraulic Properties of Geotextiles, 1st International Textile Clothing&Design Conference, Magic World of Textiles, Dubrovnik, Croatia, 2002
M.Andrassy, E.Pezelj, R.Čunko: Flax Cottonization by Ultrasound, 1st International Textile Clothing&Design Conference, Magic World of Textiles, Dubrovnik, Croatia, 2002
E. Pezelj, R. Čunko, M. Andrassy: Modification of denim surface using laser, World Textile Conference - 4th AUTEX Conference , Roubaix, Francuska, 2004
M. Andrassy, E. Pezelj, R.Čunko: Cottonisation of flax fibres under variable conditions, World Textile Conference - 4th AUTEX Conference , Roubaix, Francuska, 2004
E. Pezelj, R. Čunko: The impact of Laser Treatment on Denim Cloth and Cotton Fiber, 2nd International Textile Clothing&Design Conference, Magic World of Textiles, Dubrovnik, Croatia, 2004

Teacher data

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Curriculum vitae:

I am born in Mostar, Bosnia and Herzegovina. I have graduated on June 1990 on the Faculty of Technology. After graduation I was employed as as researcher at Faculty of Textile Technology during four years at the Department of Textile Chemistry and Material Testing. Academic Degree: M.Sc. was accomplished in November 1990, at the Faculty of Textile Technology. In the year 1996/1997 I had got a ÖAD Scholarship in duration of two months and a year later for one month in collaboration with Karl Franz Universitat Graz, Institut für Physikäliche Chemie. Furthermore, I have accomplished academic Ph.D. at November 1997. Ph. D. Thesis was: “The Influence of Mercerization on the Electrokinetic Potential and Adsorption of Surfactants".Since the beginning of work at the University I have took part at the scientific projects of pre-treatment, finishing and care of textiles-environmental aspect. I am leader of bilateral HR-SI project. My scientific activities are:mercerization,electrokinetic potential of textile fibres,adsorption of surfactants,the influence of FWA and UV absorber on pastel shades during washing,testing of detergents,wet cleaning...

Date of last election:	November 1, 2004.

Referent publications of lecturer:

Soljačić I., T. Pušić, L. Ćavara: " Colour Change of Light-Coloured Cotton Fabrics During Washing " Tekstil 41 (1992) 7, 357-360

Soljačić I., T. Pušić, L. Ćavara:" Nauncieren von hellern Farbungen mit optischen Aufhellern " Melliand Textilberichte 73 (1992) 7, 582-585

Soljačić I., T. Pušić, L. Ćavara: " Einfluss optischer Aufheller auf die Farbaenderung pastellgefärbter Textilien " Textilveredlung 27 (1992) 10, 326-328

Pušić T., I. Soljačić, A. Tarbuk, D. Madunić-Čačić: “Potentiometric Determination of Surfactants in Detergents” Tekstil 52 (2003) 9, 467-473

Soljačić I., T. Pušić: "Wet Cleaning", Tekstil 53 (2004)8, 392-398

List of papers in last 5 years:
Grancarić A.M., T. Pušić, B. Lesić-Domšić, Lj. Plantić: "The Impact of Treating Cotton with Alkali Pectinases on Cotton Knitted Fabric Sewability" Tekstil 50 (2001) 2, 55-62
Pušić T., Grancarić A.M., Soljačić I.: " The Influence of Bleaching and Mercerization on the Changes of Electrokinetic Potential " Vlákna a textil 8 (2001) 2, 121-124
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Soljačić I., T. Pušić: "Wet Cleaning", Tekstil 53 (2004) 8, 392-398
Pušić T., A. M. Grancarić, I. Soljačić: "The influence of bleaching and mercerization of cotton on the changes of electrokinetic potential" 2 nd Central European Conference, Bratislava, September 5-7, 2001., 2ndCEC Monograph Series, Volume 2, 129-134
Pušić T., I. Soljačić, A.M. Grancarić: "Adsorption Properties of Alkali Treated Cotton Fibres", Dragčević, Zvonko (Ed.), 1st ITC&DC 2002, Dubrovnik 6-9 October 2002, Magic World of Textiles: Book of Proceedings, Zagreb, Faculty of Textile Technology, University of Zagreb, 2002.,267-273
Pušić T., I. Soljačić, A.M. Grancarić, A. Tarbuk: "Adsorption of surfactants on textile fibres", 3 rd Central European Conference, 10-12 September Portorose, Proceedings-CD
Pušić T., I. Soljačić, A.M. Grancarić, A. Tarbuk: "The Influence of Textile Fibres Composition on Surfactant Adsorption and Desorption", 2nd ITC&DC, Magic World of Textiles: Book of Proceedings, Zagreb, Faculty of Textile Technology, University of Zagreb, 2004, 444-449
GrancarićA.M., T. Pušić, A. Tarbuk: "Enzymatic Scouring for Better Textile Properties", 3 rd International Conference on Textile Biotechnology, Graz, June 13-16, 2004.
Grancarić a.M., A. Tarbuk, T. Pušić, V. Ribitsch: "Electrokinetic Phenomena of Cotton Fabrics", XVIII Congress of Chemists and Technologists of Macedonia, September 23-25, 2004.
Pušić T., I. Soljačić, A.M. Grancarić: "Sorption Properties of Treated Cotton Knitt Fabric" XVII. Hrvatski skup kemičara i kemijskih inženjera, Osijek, 10-13.06.2001.
Simonič M., I. Rezić, S.Šostar-Turk, T. Pušić: "Applicability of Expansion Flotation as a Method of Waste Water Purification of Hospital Laundry," Tekstil 53 (2004) 10, 510-514

Teacher data

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Curriculum vitae:

Dubravko Rogale was born 17 November, 1955 in Rijeka. He attended the secondary school of electrical engineering in Zagreb. He graduated from the Faculty of Textile Technology and obtained a degree of graduate engineer of textile engineering. He was employed at the MEGA company, Zagreb, in 1981. In 1983 he was employed as assistant in the Department of Clothing Technology at the Faculty of Technology in Zagreb where he conducted exercises in most courses of clothing technology and clothing engineering at vocational and graduate level of teaching. In 1987 he defended his master thesis and was elected lecturer in 1988. In 1994 he defended his doctoral dissertation. He was elected assistant professor for the courses of clothing technology in 1995, associate professor in 1999, and full professor in 2003. He teaches in professional, university and postgraduate studies at the Faculaty of Textile Technology in Zagreb, Faculty of Technology of the University of Maribor and Polytechnic of Karlovac. He published 4 university reviewed books, 5 chapters in a scientific book, 88 original scientific papers, 16 reviews, 9 professional papers and 12 representations.

He had 84 presentations at scientific and professional conferences and took part in 40 seminars and public lecturers. He is a co-author of 90 surveys, projects, papers and computer programs for the needs of economies, institutions and equipment manufacturers. He has 14 innovations and 7 patents. He participated actively in 13 scientific projects, he is a project manager and main researcher of two domestic projects and one bilateral. He was the advisor of students who were awarded by the head of the University of Zagreb, advisor for more than 100 graduation theses, 7 master theses and one doctoral thesis. From 1991 to 1997 he was head of the Department of Clothing Technology, from 1998 to 2002 dean for academic affaris at the Faculty of Textile Technology, and since 2002 he has been dean of the Faculty. He received the Order of Danica hrvatska with the figure of Ruđer Bošković. He is an associate member of the Academy of Technical Sciences of Croatia. He is a memeber of the Council for Technology Development of the Republic of Croatia of the Croatian Academy of Arts and Science.

Date of last election:	Full professor, 8 July 2003

Referent publications of lecturer:

D. Rogale, S. Polanović: Računalni sustavi konstrukcijske pripreme u odjevnoj industriji, recenzirani udžbenik Sveučilišta u Zagrebu, Tekstilno-tehnološki fakultet Sveučilišta u Zagrebu, ISBN 953-96183-9-8, UDK 681.3:687(075.8), 188 str.

D. Rogale, D. Ujević, S. Firšt Rogale, M. Hrastinski: Tehnologija proizvodnje odjeće sa studijem rada, recenzirani udžbenik Univerziteta u Bihaću, Mašinski fakultet Univerziteta u Bihaću, ISBN 9958-624-08-7, UDK 687.1.016/.073(075.8), 201 str.

D. Rogale: Garment sewing processing parameters: Determination using numerical methods and computers, International Journal of Clothing Science and Technology, 7, (1995), 2/3, 56-60

D. Rogale, Z. Dragčević: Sustav za automatska mjerenja procesnih parametara i struktura tehnoloških operacija proizvodnje odjeće, DZIV, oznaka patenta PK20010694 od 11. ožujka 2003.

D. Ujević, D. Rogale, M. Hrastinski: Tehnike konstruiranja i modeliranje odjeće, recenzirani udžbenik Sveučilišta u Zagrebu, 2004., ISBN 953-7105-01-6

List of papers in last 5 years:
D. Ujević, D. Rogale, M. Hrastinski: Tehnike konstruiranja i modeliranje odjeće, recenzirani udžbenik Sveučilišta u Zagrebu, Tekstilno-tehnološki fakultet Sveučilišta u Zagrebu, ISBN 953-96408-1-4, UDK 687.1(075.8), 337 str.
S. Firšt Rogale, Z. Dragčević , D. Rogale: Methods of Determining Normal Times for Machine-Hand Sub-Operation of Sewing Straight and Curved Seams, DAAAM International Scientific Book 2003, Wien, 3-901-509-36-4, 645-659
S. Petrak, D. Rogale: Methods of automatic computerised cutting pattern construction, International Journal of Clothing Science and Technology, 13, (2001), 3/4, 228-239
D. Rogale, Z. Dragčević, A. Hursa: The impact of auxiliary devices on sewing-machines upon processing parameters of sewing operations, International Journal of Clothing Science and Technology, 13, (2001), 3/4, 251-263
Z. Dragčević, D. Zavec, D. Rogale, J. Geršak: Workloads and Standard Time norms in Garment Engineering Journal Textile Apparel, Technology and Management, 2, (2002), 2, 1-8
S. Firšt Rogale, Z. Dragčević , D. Rogale : Determining Reaction Abilities of Sewing Machine Operators in Joining Curved Seams, International Journal of Clothing Science and Technology, 15, (2003), 3/4, 179-188
D. Rogale, I. Petrunić: The Method of Determining Sewing Machine Energy Consuption Coefficient, 1st ITC& DC 2002, Dubrovnik, Croatia, 389-394
S. Bogović, D. Rogale: Modelling Garment Cutting patterns Using Matrix Transformations, 1st ITC&DC 2002, Dubrovnik, Croatia, 341-346
A. Hursa, D. Rogale, Z. Dragčević: The Impact of Border Ruller on Proccessing Parameters of Straight Seam Sewing Operation, 13th International DAAAM Symposium 24-27 th October 2002, Vienna, 217-218
D. Rogale, Z. Dragčević, I. Petrunić: Determining energy parameters in garment sewing operations, 4th IMCEP 2003, Maribor, 09 -11.10.2003, 115-124
D. Rogale, Z. Dragčević, I. Petrunić: New system of measuring energy consumption in garment sewing operations, Proceedings of the 14th International DAAAM Symposium, October 2003, Sarajevo, 391-392
D. Rogale, S. Petrak, V. Mandekić-Botteri: Method of Transforming 3D Clothing Patterns into 2D Cutting Parts, 2nd ITC& DC 2004, Dubrovnik, Croatia, 586-593
D. Rogale, Z. Dragčević: Sustav za automatska mjerenja procesnih parametara i struktura tehnoloških operacija proizvodnje odjeće, Državni zavod za intelektualno vlasništvo, priznato pravo upisano je u registar patenata DZIV-a pod brojem PK20010694
D. Rogale, A. Švaljek, G. Nikolić, K. Hajdarović: Inteligentna zidna ili podna obloga, Državni zavod za intelektualno vlasništvo, upisano u Registar prijava patenata pod oznakom P20030642A .
D. Rogale, S. Firšt Rogale, Z. Dragčević, G. Nikolić.: Inteligentni odjevni predmet s aktivnom termoregulacijskom zaštitom, Državni zavod za intelektualno vlasništvo, prijava patenata pod oznakom P20030727A .
G. Nikolić, D. Rogale: Inteligentna glačalica za odjevne predmete, Državni zavod za intelektualno vlasništvo, prijava patenata pod oznakom P20030987A.

Teacher data

Surname, name:	Rogale, Firšt Snježana
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WWW address of personal page:	

Curriculum vitae:

She was born October 22, 1968 in Zagreb where she attended primary and secondary textile school. She obtained a degree at the Faculty of Textile Technology, University of Zagreb, defending her diploma thesis under the title "Possibilities of Special Type of Garment Cut Grading Using CAD/CAM Systems of Garment Production". She was awarded the degree of B.Sc. in Textile Technology, specialization in Garment Technology.
She took a job at the Garment Manufacturing Company, Zagreb, as a trainee, where she gained experience and practical knowledge in technological processes of industrial garment production. In 1996 she got a job at the Faculty of Textile Technology, University of Zagreb, at the Department of Clothing Technology, as external associate for the courses: Processes of Garment Production, Garment Construction and Computer Garment Construction. In 1997 she enrolled in the postgraduate study of Textile Engineering at the Faculty of Textile Technology, University of Zagreb. In 1998 she became regularly employed at the Faculty of Textile Technology as junior assistant for the courses: Garment Construction, Processes of Garment Production I and II, Engineering of the

Garment Technology Processes, and Workplace Design. In addition to teaching activities, she also provides assistance in writing diploma theses.In 2002 she defended her master's thesis under the title "Methods of Defining of Machine-Hand Time of Sewing Suboperations" under the mentorship of Prof. Zvonko Dragčević, Ph.D. In the same year she was elected to the associate title of assistant.
In 2007 she defended her doctoral dissertation under the title "Intelligent Clothing with Active thermal Protection" under the mentorship of Prof. Zvonko Dragčević, Ph.D. She was an active researcher of the scientific research projects 117003 Clothing Production Process and Garment Design and 0117003 Production Process Parameters and Garment Design financed by the Ministry of Science, Education and Sports of the Republic of Croatia. She is now an active researcher of the project 117-1171879-1894 "Intelligent Clothing and Environment" also financed by the Ministry of Science, Education and Sports of the Republic of Croatia. As a co-author she published one reviewed university textbook (1st and 2nd edition), one patent application in country and abroad, one chapter in a scientific book, one chapter in a scientific and professional book, four original scientific papers were published in international journals related to the field of clothing technology, 13 reviewed original scientific papers were published in proceedings of international scientific conferences, 6 review articles and five public lectures.

Date of last election:	9. 2. 2009. assistant professor

Referent publications of lecturer:

S. Firšt Rogale, Z. Dragčević: Development a method of defining duration of sewing sub-operations, Tekstil, 50, (2001.), 8, 393-405, SCI IDS Number: 489HX

Z. Dragčević, S. Firšt Rogale: Investigation of Dynamic Working Zones and Movements in Garment Engineering, International Journal of Clothing Science and Technology, 13, (2001), 3/4, 264-279

S. Firšt Rogale, Z. Dragčević , D. Rogale: Methods of Determining Normal Times for Machine-Hand Sub-Operation of Sewing Straight and Curved Seams, DAAAM International Scientific Book 2003, Wien, 2003, 3-901-509-36-4, 645-659

D. Rogale, Z. Dragčević, I. Petrunić, S. Firšt Rogale: New System of Equipment for Determining Electrical Energy Processing Parameters (KVP-1) – ; Applied to Garment Engineering, Proceedings of the 15th International DAAAM Symposium, Katalinić, B. (ur.), Beč, DAAAM Intaernational Vienna, November 2004, Vienna, 395-396

G. Nikolić, D. Rogale, D. Ujević, S. Firšt Rogale: Strojevi za spajanje i rezanje tekstilnih materijala s novim tehnologijama rada - IMB 2006, Tekstil, 56, (2007.), 5, 308-317

List of papers in last 5 years:
D. Rogale, I. Petrunić, Z. Dragčević, S. Firšt Rogale: Equipment and Methods used to Investigate Energy Processing Parameters of Sewing Technology Operations, Book of Proceedings of the 2nd International Textile, Clothing and Design Conference – Magic World of Textiles, Dragčević, Z. (ur.), Zagreb. Faculty of Textile Technology University of Zagreb, 03th to 06th 2004, Dubrovnik, Croatia, 594-599
D. Rogale, Z, Dragčević, Z. Orehovec, S. Firšt Rogale: Inteligentna odjeća – razvoj i vojna primjena, Hrvatski vojnik, 14 (2004), 104, 22-27
S. Firšt Rogale, G. Nikolić, Z. Dragčević, D. Rogale, M. Bartoš: Arhitecture of Clothing with an Active Thermal Protection, Proceedings of the 16th DAAAM International Symposium, Katalinić, B. (ur.), Beč, DAAAM Intaernational Vienna, 19-22nd October 2005, Opatija, Croatia, 121-122
D. Rogale, I. Petrunić, Z. Dragčević, S. Firšt Rogale: Equipment and methods used to investigate energy processing parameters of sewing technology operations , International Journal of Clothing Science and Technology, 17, (2005), 3/4, 179-187, SCI IDS Number: 962DG
S. Firšt Rogale, G. Nikolić, Z. Dragčević, D. Rogale, M. Bartoš: Arhitecture of Clothing with an Active Thermal Protection, Proceedings of the 16th DAAAM International Symposium, Katalinić, B. (ur.), Beč, DAAAM Intaernational Vienna, 19-22nd October 2005, Opatija, Croatia, 121-122
D. Rogale, S. Firšt Rogale, Z. Dragčević, G. Nikolić, M. Bartoš: Development Of Intelligent Clothing With An Active Thermal Protection, 6th World Textile Conference AUTEX 2006, 11 – 14th June 2006, North Caroline, 1-7
S. Firšt Rogale, D. Rogale, Z. Dragčević, G. Nikolić, M. Bartoš: The Algorithm of the Intelligent Behavior of the Article of Clothing, Proceedings of the 17th International DAAAM Symposium " Intelligent Manufacturing & Automation: Focus on Mechatronics and Robotics", Katalinić, B. (ur.), Beč, DAAAM International Vienna, 2006, 125-126, ISI IDS Number: BFX77
S. Firšt Rogale, D. Rogale, Z. Dragčević, G. Nikolić, M. Bartoš: The Algorithm of the Intelligent Behavior of the Article of Clothing, Proceedings of the 17th International DAAAM Symposium " Intelligent Manufacturing & Automation: Focus on Mechatronics and Robotics", Katalinić, B. (ur.), Beč, DAAAM International Vienna, 2006, 125-126, ISI IDS Number: BFX77
D. Ujević, M. Hrastinski, Z. Dragčević, L. Szirovicza.: Tjelesna konstitucija čovjeka, Hrvatski antropometrijski sustav, Poglavlje 10, Znanstveno-stručna knjiga Hrvatski antropometrijski sustav – Podloga za nove hrvatske norme za veličinu odjeće i obuće, D. Ujević (ur.), 138-149, Tekstilno-tehnološki fakultet Sveučilišta u Zagrebu, Zagreb, 2006, ISBN 953-7105-09-1
D. Ujević, S. Firšt Rogale, G. Nikolić, D. Rogale: Survey of development achievements in the sewing technology - IMB 2006., Tekstil, 50, (2007.), 12, 624-631, SCI IDS Number: 179SA
S. Firšt Rogale, D. Rogale, Z. Dragčević, G. Nikolić: Realization of the Prototype of Intelligent Article of Clothing with Active Thermal Protection, Tekstil, 56, (2007.), 10, 610-626
S. Firšt Rogale, D. Rogale, Z. Dragčević, G. Nikolić, M. Bartoš: Technical System in Intelligent Clothing with Active Thermal Protection, Anual 2007 of the Croatian Academi of Engineering, ur. Z. Kniewald, Zagreb 2007, ISSN 1332-3482, 299-320 S. Firšt Rogale, Z. Dragčević, G. Nikolić, D. Rogale, M. Bartoš: Inteligentni odjevni predmet s aktivnom termićkom zaštitom, 1. Znanstveno-stručno savjetovanje Tekstilna znanost i gospodarstvo, 26. siječnja 2008, Zagreb 27-35
S. Firšt Rogale, D. Rogale, G. Nikolić, Z. Dragčević, M. Bartoš: Construction and Function of Thermoinsulating Chambers in the Intelligent Clothing with Active Thermal Protection, 5th International Conference Innovation and Modelling of Clothing Engineering Processes – IMCEP 2007, Faculty of Mechanical Engineering, October 10-12, 2000, Moravske Toplice, Slovenia, 23-33

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Curriculum vitae:

I was born 31 October 1955 in Jablanica, Prizren, Kosovo. I attended primary and secondary school in Prizern, and I enroled in the Faculty of Technology, Zagreb, where I graduated. After graduating I worked in different executive positions at the company TI Printeks, Prizren, Kosovo. Twice I stayed at the ZellWeger Uster company in Switzerland where I improved my professional knowledge. I won my master's degree after defending the master thesis "Influence of cotton fibre properties and technology on physical yarn properties" in 1986. I have been employed at the Faculty of Technology Zagreb since 1987 and my courses encompass spinning, nonwoven and technical textiles. In 1995 I stayed at Texas Tech University, International Textile Center, Lubbock, USA at the International Cotton Centre. In 1998 I defended my doctoral disseration entitled "Impact of spinning force on cotton yarn properties". In 1999 I was elected assistant professor and in 2004 I was elected associate professor at the Faculty of Textile Technology of the University of Zagreb. I am in charge of the courses: spinning processes, nonwovens, textile-mechanical processes, production of textile fabrics, nonwoven and technical textiles.

I am married and have two children. I live with my family in Zagreb.

Date of last election:	September 20th 2004

Referent publications of lecturer:

Skenderi Z., Orešković V., Perić P., Kalinovčić H.: Determining Yarn Tension in Ring Spinning, Textile Res. J., 71 (2001) 4, 343-350

Skenderi Z., P. Perić: Possibility of Measurement of Spinning Force at the Pigtail of the Ring Spinning Machine, Special Edition of MAGYAR TEXTIL-TECHNIKA, Journal of the Hungarian Society of Textile Technology and Science, (1998.), 79-85

Skenderi Z., P. Perić, V. Orešković i D. Vitez: Otpor istezanju pamučne pređe u funkciji koeficijenta uvijanja, Tekstil 44 (1995.) 12, 573-578

Skenderi Z. i M. Nikolić: Novosti na području netkanog i tehničkog tekstila, Tekstil 53 (2004.) 9, 454-464

Skenderi Z.: Netkani tekstil u cestogradnji, Tekstil 51 (2002.) 2, 78-82

List of papers in last 5 years:
Skenderi Z. i Miroslav Srdjak: Quality of Spun Knitting Yarns of 50/50 % Cotton/Modal Blend and 100 % Viscose, The 42nd. Congress of Intrenational Federetaion of Knitting Technologists, Lodz, Poland, 2004
Nikolić M., Skenderi Z. i J. Cerkvenik: Razvojni dosežki na področju izdelave predivnih prej, Tekstilec, Vol.47, 3-4, 2004, 73-79
Nikolić M. i Z. Skenderi: Tehnologije predenja vlasastih vlakana na ITMA-i 2003, Tekstil, Vol. 53, 4, (2004), 147-156
Salopek I., M. Srdjak, V. Zlatko i Z. Skenderi: A comparison of Geometrical and Knitted Fabric Parameters for balanced Rib-knitted structires, Annals of DAAAM for 2004 & Proceedings of the 15th International DAAAM Symposium, Viena, Austria, 2004
Vrljičak Z., M. Srdjak and Z. Skenderi: Needle Damage in Hosiery Production, Annals of DAAAM for 2004 & Proceedings of the 15th International DAAAM Symposium, Viena, Austria, 2004
Skenderi Z., D. Vitez: Kompresijsko predenje-nova šansa prstenastog predenja, Tekstil 52 (2003.) 1, 11-17
Vrljičak Z., M. Srdjak, Z. Skenderi, H. Šilc: Analiza parametara očice glatkih kulirnih pletiva, Tekstil 52 (2003.) 5, (2003.) 5, 225-231
Skenderi Z., M. Srdjak: Unevenness of Mass in Worsted Yarn Production for Wool/PES Blend, Annals of DAAAM for 2003 & Proceedings of the 14th International DAAAM Symposium, 22-25th October 2003, Sarajevo, 423-424
Fatkić E., M. Srdjak, Z. Skenderi: Problemi projektiranja pletiva u praktičnoj proizvodnje, 4th International conference RIM 2003, 25-27th, 2003, Bihać, 689-692
Ramljak M., Z. Skenderi, A. Švaljek: Netkani tekstil u cestogradnji, Tekstil 51 (2002.) 2, 78-82
Skenderi Z., P. Perić, M. Srdjak: Tenacity and Breaking Extension of Combed Cotton Yarn in Function of Extension Rate and Specimen Length, World Textile Conference, 2nd AUTEX Conference, July 2002, Bruges
Skenderi Z., M. Srdjak & Z. Vrljičak: Influence of Numbe of Fibres in Yarn Cross-section and Extension Rate on Tenacity and Breaking Extension of Combed Cotton Yarn, Annals & Proceedings of the 13th International DAAAM Symposium, 23-26th October 2002, Viena, 509-510
Fatkić E., M. Srdjak, Z. Skenderi & Z. Vrljičak: Dependence of the Tightness of Knitted Fabric on Structure Density and Yarn Properties, Annals of DAAAM for 2002 & Proceedings of the 14th International DAAAM Symposium, 23-26th October 2002, Viena, 165-166
Skenderi Z., V. Orešković, P. Perić & H. Kalinovčić: Determining Yarn Tension in Ring Spinning, Text. Res. J. 71 (2001.) 4, 343-350
Skenderi Z., P. Perić, M. Srdjak: Variance-Length Curve of Mass Unevenness of Spun Yarn, 8th International Conference on Textile Raw materials, 16-17 May, 2001, Budapest, 111-123

Teacher data

Surname, name:	Soljačić Ivo
Institution:	Faculty of Textile technology
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Curriculum vitae:

Born in Zagreb 1935. Graduation 1959. and Ph.D. Thesis 1971. on the Faculty of Technology University of Zagreb. M.sc. 1966. on the Pharmaceutical-biotechnology faculty. After graduation I employed at Tekstilni kommbinat Zagreb (TKZ) as technologist and later as chief of Fnishing until 1963. when was elected as assistant at the Faculty of Technology-Department for textile technology. Elected as Assist.Prof. 1971., Ass. Prof. 1974. and Prof. 1977. Director of OOUR Textile technology 1974-1978. Vice-dean of Faculty of Technology from 1979-1983, and dean from 1983-1985 and 1990-1991. Dean of Faculty of Textile Technology from 1995-1998 and vice-dean 1998-2002. The topic of scientific interest are investigations in the finishing of textiles, especially whiteness and fluorescence in bleaching with Fluorescent whitening agents (FWA), chemical kinetic in bleaching with hydrogen peroxide,mercerization, durable press finishing, oplephophobic treatments, analytical methods in processes of finishing of textiles etc.

Last few years investigates textile care, especially the influence of FWA on the whiteness and color change of pastel shades in washing. He has published app. 200 papers, four books and two hand-books. Awarded with the Year Republic reward for scientific work 1989. and honored with "Redom Danice hrvatske" with person of Ruđer Bošković 1996. He has received and many other recognitions.

Date of last election:	1996.

Referent publications of lecturer:

D. Pezelj. I. Soljačić: "Influence of chemical finish of the face cloth on the fixation effect of interlining" Tekstil, 33, (1983), 5, 279-289.

I. Soljačić, M. Laković: "Investigation of the Impact of Frontal Fixation on White Shirtings" Tekstil 32 (1983), 1, 11-18.

D. Pezelj, I. Soljačić: "Possibilities of processing garment in organic solvents" Tekstil, 34, (1985), 1, 1-20.

I. Soljačić, D. Pezelj, T. Arsova: "Influence of the parameters of front bonding on the tenacity and resistance of the bond in dry cleaning and on the change of colour of the top cloth" Tekstil, 42, (1993), 9, 489-495.

I. Soljačić, T. Pušić:“Wet Cleaning of Textiles” Tekstil, 53 (2004) 8, 392-398

List of papers in last 5 years:
S. Bishof Vukušić, D. Katović, I. Soljačić:“DP Finishing with Polycarboxylic Acid and Phosphono-Based Catalysts” AATCC Review 2 (2002) 10, 14-16
Đ. Parac-Osterman, I. Soljačić, V. Golob: "The Impact of Cotton Treatment on Dyeing with Reactive Dyes” Tekstil 49 (2000), 3, 125-150
V. Golob, A. M. Grancarić, I. Soljačić:“Influence of Pretreatment of Cotton on Reactive Dyestuffs Yield” Tekstilec 43 (2000), 9-10, 331-336
T. Pušić, A.M. Grancarić, I. Soljačić:“The Influence of Bleaching and Mercerization of Cotton on the Changes of Electrokinetic Pontential” Vlakna a Textil 8 (2001), 2, 121-124
D. Fakin, V. Golob, I. Soljačić:“Strukturne i fizikalno-kemijske promjene vune u postupcima oplemenjivanja” Tekstil 52 (2003), 3 95-103
S. Bischof Vukušić, D. Katović, I. Soljačić. “A Comparison of Conventional and New Ecologically Acceptable Durable Press Finishing Agents” Kem. Ind. 52 (2003), 7-8, 327-333
V. M. Potočić Matković, I. Soljačić, Z. Mencl Bajs: “Jesuits Talars as a Source of Inspiration for the Manufacture of Formal Academical Gown for the University of Zagreb” Disputatio Philosophica International Journal on Philosophy and Religion No 1 2003. s. 177-186
Nuber M, I. Soljačić, L. Ćavara: “New Developments in Detergents for Household Purposes” Tekstil 49 (2000), 4, 167-173
A. M. Grancarić, I. Soljačić, T. Pušić, J. Bišćan:"Electrokinetic Behaviour of Textile Fibres" Polimeri, 23 (2002) 6, 121-128
I. Soljačić i sur.:Časopis Tekstil – Ogledalo razvoja u području tekstila i odjeće tijekom 4. i 5. desetljeća izlaženja (1982-2001) Tekstil 50 (2001), 12, 623-729
B. Marčac-Škrtić, I. Soljačić:“Softners for Textiles” Tekstil 50 (2001), 2, 63-71
Đ. Parac-Osterman, A. Sutlović, I. Soljačić:"Water in finishing of textiles-Raw and Waste materials" Tekstil 52, (2003), 2, 55-62
T. Pušić, I. Soljačić, A. Tarbuk, D. Čačić Madunić:"Potentiometric Determination of Surfactants in Detergents" Tekstil 52 (2003), 9, 467-473
I. Soljačić, R. Čunko, D. Pezelj, D. Rogale:"Hrvatski tekstil-razvitak, sadašnje stanje i budućnost" Tekstil 52 (2003), 12, 630-639
I. Soljačić:“Solvents for Dry-cleaning” Tekstil 49 (2000), 9, 500-501

Institution:	Tekstilno tehnološki fakultet Zagreb
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Biography:

Date of birth: 6 November 1943 in Pašnik, Municipality of Ivanec, County of Varaždin.
Education: Secondary Textile Industry School in Varaždin, Secondary Textile Technical School in Zabok, Higher Textile Technical School in Varaždin, Faculty of Textile Technology in Zagreb – Level 7, Faculty of Textile Technology in Zagreb (Graduate Studies). Zagreb Institute of Production – specialization in SPINIR- Inventive Work Application Service, Zagreb Institute of Production – specialization in Application of Standardization in Industry
Work experience: VIS Varaždin – silk-mill master, Renoteks Koprivnica – Technical manager Duga Resa cotton industry – QA Departmetn head, Vartilen Varaždin – Project Head, Faculty of Textile Technology Zagreb – Lecturer, Senior Lecturer in the Department in Varaždin, Department Head

Projects: Technology Development Project of Renoteks Koprivnica, UTI Sarajevo – application of PES fibres and filaments in Dekorativa Prozor, Vartilen Varaždin – silk/weaving mill project in Tunisia, Vartilen Varaždin - silk/weaving mill project for processing of high-strength PES filament, Zavod za ekonomiku and Regeneracija Zabok – Technology and Economic Project of the Regeneracija Zabok reorganization. Current activity: research of primarily textile, noise-absorbent materials. Research of textile fibres, yarns and fabric one-dimensional products, sponges and mineral fibres. Based on research results, fabric one-dimensional products are designed and used in further research.

Last Appointment Date:	1998

List of qualifying works:

Strmečki V.: Izdržljivost raznih vrsta uzlova na dinamička opterečenja, Tekstil 33 (1978) 805-807

Prus A., V. Strmečki. Tkanje, Tehnička enciklopedija, svezak 13 (1997) 94-103

Strmečki V., T. Koren, M. Cerovec: Utjecaj konstrukcije tkanine na smicanje niti u području šivaćeg šava, Tekstil 2 (2000) 71-76

Kovačević S., V Strmečki, J. Hađina: Nove tehnologije i novi proizvodi u području tkanja, Tekstil 49 (2000) 21-28

Strmečki V., M. Cerovec: Istraživanje apsorpcije zvuka raznih vrsta pređa, Tekstil 46 (1998) 572-577

List of works in the last five years:
Kovačević S., V.Strmečki, J. Hađina: Nove tehnologije i novi proizvodi u području tkanja, Tekstil 49 (2000) 21-28
Strmečki V., T. Koren, M. Cerovec: Utjecaj konstrukcije tkanine na smicanje niti u šivaćeg šava, Tekstil 2 (2000) 71-76

Teacher data

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WWW address of personal page:	

Curriculum vitae:

Born in Banja Luka, Republic of Bosnia and Herzegovina. Graduated 1972 at Faculty of Technology, Zagreb, Croatia. Obtain M.S. degree at Faculty of Technology, Univrsity of Zagreb, in field of organic chemistry. Ph.D. degree obtained 1993 at the Faculty of Chemical Engineering and Technology, Univrsity of Zagreb in field of organic chemistry. Since 1974 assistant at Department of Organic Chemistry, Faculty of Technology, University of Zagreb, since 1991 asistent on Organic Chemistry at Faculty of Textile Technology. Assistant professor for Organic Chemistry since 1997, and associate professor since 2005. Holds classes for Organic Chemistry and Chemistry of Synthetic and Natural Polymers. Her scientific work covers organic chemistry, medicinal chemistry as well as spectroscopy. Author of 25 scientific articles, 21 of them with CC citation. Co-author of the textbook: Introduction to Organic Chemistry for engineers of textile technology.

Date of last election:	2005.

Referent publications of lecturer:

R. Mrša, V. Tralić-Kulenović, L. Fišer-Jakić, "Chromatographische Frontalaufstiegsanalyse von Farbstoffen auf Baumwollgewebe", Melliand Textilber, 1991, 72(2), 140

V. Tralić-Kulenović, R. Mrša, L. Fišer-Jakić, "Densitometrische Prüfungen von Farbstoffchromatogrammen", Melliand Textilber, 1992, 73(6), 512

V. Tralić-Kulenović and L. Fišer-Jakić, "Solvent and Substituent Effect on the Absorption and Fluorescence Properties of Substituted 2-Phenylbenzothiazoles and their Vinylogues", Spectrochimica Acta Part A, 1997, 53, 271

V. Tralić-Kulenović, L. Racané, G. Karminski-Zamola; Absorption and Fluorescense Properties of Some Substituted 2-Furylbenzothiazoles and Their Vinyloges in different Solvents; Spectroscopy Lett., 2003, 36, 43

L. Racané, V. Tralić-Kulenović, D. W. Boykin, G. Karminski-Zamola; Synthesis of New Cyano-Substituted bis-Benzothiazolyl Arylfuran and Arylthiophene; Molecules, 2003, 8, 342

List of papers in last 5 years:
J. Popović, D. Mrvoš-Sermak and V. Tralić-Kulenović; N,2-Dimethyl-3-furanthiocarboxanilide, Acta Cryst. E, 2001, E57, 0893
Z. Popović, D. Mrvoš-Sermak, Ž. Soldin and V. Tralić-Kulenović; catena-Poly[[(2-methyl-1,3-benzothiazole-N)mercury(II)]-di-?-chloro]; Acta Cryst. C 2001, C57, 20
L. Racané, V. Tralić-Kulenović, L.Fišer-Jakić, D.W. Boykin and G. Karminski-Zamola; Synthesis of Bis-Substituted Amidinobenzothiazoles as Potential Anti-Hiv Agents; Heterocycles, 2001, 55(11), 2085
Z. Popović, G. Pavlović, Ž. Soldin, V. Tralić-Kulenović and L. Racané; Bis(7-amino-1,3-benzothiazole-N)dichlorozinc(II), Acta Cryst.C, 2003, C59, m4
V. Tralić-Kulenović, L. Racané, G. Karminski-Zamola; Absorption and Fluorescense Properties of Some Substituted 2-Furylbenzothiazoles and Their Vinyloges in different Solvents; Spectroscopy Lett., 2003, 36, 43
L. Racané, V. Tralić-Kulenović, D. W. Boykin, G. Karminski-Zamola; Synthesis of New Cyano-Substituted bis-Benzothiazolyl Arylfuran and Arylthiophene; Molecules, 2003, 8, 342
D. Matković-Čalogović, Z. Popović, V. Tralić-Kulenović, L. Racané, G. Karminski-Zamola; 1,3-Bnzothiazole-6-carboxamidinium chloride dihidrate; Acta Cryst.C, 2003, C59, o190
G. Pavlović, V. Tralić-Kulenović, Z. Popović; 2-Furancarboxanilide; Acta Cryst.E, 2004, E60, o631
G. Pavlović, V. Tralić-Kulenović, Z. Popović; N-Benzyl-2-methylfuran-3-thiocarboxanilide; Acta Cryst.E, 2004, E60, o637
I. Ćaleta, M. Grdiša, D. Mrvoš-Sermek, M. Cetina, V. Tralić-Kulenović, K. Pavelić, G. Karminski-Zamola; Synthesis, Crystal structure and antiproliferative evaluation of some new substituted benzothiazoles and styrylbenzothiazoles; Il Farmaco, 2004, 59, 297

Name:	Jasenka Tabak
Institution:	Faculty of textile technology, Department in Varaždin
E-mail address:	jtabak@sj-vz.ttf.hr
Personal Internet address	

Biography:

I was born on 29 October 1946 in Varaždin, where I finished primary and secondary (grammar) school. In academic year 1965 to 1966 I enrolled into the study of German Language and Literature as my major course and English as my second, at the Faculty of Humanities and Social Sciences of the University in Zagreb. In my third year I received a scholarship to the University of Rostock, and i started my 7th semester at the Westfälische Wilhelms-Universität in Münster. I graduated in 1970 and started working at the Language School at the then Open University in Varaždin as the German and English Teacher. In 1974 I passed the state exam at the Faculty of Humanities and Social Sciences of the University in Zagreb. In 1981, I started working at the then Higher Textile Technical School in Varaždin as a Lecturer for the courses of "The German Language" and "The French Language". I was re-appointed to the same position following merging of the Higher Textile Technical School in Varaždin, to the University of Zagreb, Faculty of Technology, Institute for Textile and Clothing.
.

In 1987, I graduated at the Faculty of Humanities and Social Sciences of the University in Zagreb, Department of German Studies.
When re-appointed in 1996, I was awarded the position of a Lecturer for the courses of "The German language" and "The English Language" at the Faculty of Textile Technology of the University in Zagreb, and in 2002 a "Senior lecturer". In 1982 I attended the International Higher Education German Seminar at the Technische Universität in Dresden, lasting one month. In 1983, I participated at the Congress of Applied Linguistics Associations in Sarajevo 1984, a seminar for English for Specific Purposes in Ljubljana, and in 1994 at the German Seminar in Freiburg. My presentation lecture entitled "Die grammatische Kategorie des Passivs im Deutschen und im Kroatischen" was held in March 1998, before the Faculty of Textile Technology Council.

Last Appointment Date:	30 September 2002

List of qualifying works:

Master's Thesis: "Reflexive Verbs in German and Croatian" September 1987, Faculty of Humanities and Social Sciences, Zagreb

List of works in the last five years:

Europski kongres Orgulje kao europska kulturna baština, održan u Varaždinu od 16 - 20 rujna

2000. g.- prijevod svih predavanja i cjelokupnog kongresnog materijala na njemački jezik.
Burkhard Wulfhorst: Zukunft der Textilfertigungsverfahren, Simulationsrechnungen als Entwicklungswerkzeug, Tekstil br.7, Zagreb 2001.
Mehrwert durch Spezialeinlagen und Nahrfixierung?, Tekstil br.9, Zagreb 2001
Prof.Dr Joachim Hilden:Entwässerung von Textilien-eine Schlüsseltechnologie in der Veredlungskette, Tekstil br. 10, Zagreb 2001
Znanstveni pregled: Nadilaženje oprečnosti poimanja refleksivnosti u jezičn om paru hrvatski-njemački, Strani jezici 32 (2002), 3-4

Teacher data

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Curriculum vitae:

Antoneta Tomljenović was born on the September 10th, 1968. After gymnasium graduation, she took a degree of Bachelor of Science at the University of Zagreb, Faculty of Textile Technology on the October, 1995. As a young scientist – assistant she was employed at Faculty of Textile Technology on the 1996. She successfully finished postgraduate study with a Master degree of Technical Sciences on the November, 2002. As a Doctor of Technical Sciences after November, 2006. she continued with educative and scientific work on the Department of materials, fibers and textile testing at the same Faculty as a higher assistant and after february 2009. as a profesor assistant.

Areas of scientific and professional fields: analysis, testing and quality control of textile materials, textile materials propertys modification, multifunctional textile materials, evaluation metodology for the quality of specific textile materials. With purpose of scientific education she continuously stayed for three months in Slovenia – precisely on the Faculty of Natural Sciences and Engineering, Department of Textiles and National Institute of Chemistry. During her work on the four scientific projects she published five original scientific papers, two reviews, three professional papers and participated on eight international conferences and eight inland scientific and professional conferences.

Date of last election:	Februray 9th, 2009., Profesor assistant

Referent publications of lecturer:

2. E. Pezelj, A. Tomljenović, R. Čunko: Textiles for the Protection against Sun Radiation, Tekstil 53 (2004) 6, 301-316

8. A. Tomljenović, R.Čunko, E. Pezelj, S. Grgec: Evaluation Metodology for the Quality of Sunshade Fabrics under Application Conditions, Tekstil 57 (1-2) 1-14 (2008.)

R. Čunko, A. Tomljenović: Changes of Physical Properties of Cellulose Fibres by the Impact of Ultrasound , Tekstil 52 (2003) 2, 47-54

A. Tomljenović, R. Čunko: Impact of Ultrasonics on Sorption of Cellulose Fibres Tekstil 52 (2003) 6, 253-262

List of papers in last 5 years:
A. Tomljenović, R. Čunko: Reducing Fibrillation Tendency of Man-made Cellulose Fibres employing Ultrasound Treatment, The Journal of The Textile Institute 95 (2004) 1-6, 327-339
E. Pezelj, R. Čunko, A. Tomljenović, M. Somogyi: Tekstil za zaštitu od Sunčeva zračenja, Tekstilni dani Zagreb 2004: Novosti i razvojni trendovi u tekstilstvu, 6. i 7. veljače 2004.
E. Pezelj, A. Tomljenović, R. Čunko: Textiles for the Protection against Sun Radiation, Tekstil 53 (2004) 6, 301-316
A. Tomljenović, E. Pezelj, R. Čunko: Comparison of UV Protective Properties of Undyed Woven Fabrics for Sunshades treated with Different UV Absorbers, 5th World Textile Conference AUTEX, 27-29 june 2005. Portorož, Slovenia, 1030-1035
A. Tomljenović, E. Pezelj: Različitosti u pristupu ispitivanja, označivanja i klasifikacije tekstila za zaštitu od UV zračenja, Tekstilni dani Zagreb 2006: Usklađivanje hrvatskih norma s europskim tehničkim normama prije ulaska u europsku uniju, 10. ožujka 2006.
E. Pezelj, A. Tomljenović, R. Čunko: The Impact of Laser Treatment on Gray Woven Cotton Fabrics, 37 th International Symposium on Novelties in Textiles, 15-17 June 2006., Ljubljana, Slovenia, 17, full paper on CD (ISBN 961-6045-37-7), 1-6
A. Tomljenović, M.I. Glogar, E. Pezelj: Comparison of UV Protective Properties and Changes in Colour of Undyed Woven Fabrics, 3rd International Textile, Clothing & Design Conference, 8 -11 October 2006., Dubrovnik, Croatia, 745-750
A. Tomljenović. E. Pezelj: Primjena organskih UV apsorbera kod UV zaštitnih sjenila, XX. Jubilarni hrvatski skup kemičara i kemijskih inženjera, 26. veljače – 1. ožujka 2007., Zagreb, 287
A. Tomljenović, E. Pezelj, R. Čunko: Mogućnosti utvrđivanja UV zaštitne učinkovitosti zaštitnih sjenila, Tekstilni dani Zagreb 2007: Primjena EN i ISO tehničkih norma u tekstilu i odjeći, Najnovija postignuća prikazana na sajmu IMB 2006 u Kölnu, 09.ožujka 2007.
A. Tomljenović, E. Pezelj, F. Sluga: Application of TiO2 nanoparticles for UV protective shade textile materials, 38. simpozij o novostih v tekstilstvu: Oblikovanje in tehnologije – novi izzivi za prihodnost, 21. junij. 2007. Ljubljana, Slovenia,16, full paper on CD (ISBN 978-961-6045-46-9) 59-64
A. Tomljenović, A. Džido: Improving Durability of UV Absorbers treated Shade Textile Materials, Book of Proceedings 1st Scientific-Professional Symposium Textile Science & Economy, TTF Zagreb, 26. January 2008., Zagreb, Croatia, 113-116
8. A. Tomljenović, R.Čunko, E. Pezelj, S. Grgec: Evaluation Metodology for the Quality of Sunshade Fabrics under Application Conditions, Tekstil 57 (2008)1-2, 1-14
A. Tomljenović, E. Pezelj, I. Soljačić: Durability of Multifunctional Shade Textile Materials Modified by TiO2 Nanoparticles Procedings of the 8th World Textile Conference AUTEX 2008, June 24-26, 2008. Biella, Italy, 51, full paper on CD (ISBN 978-88-89280-49-2) 1-8
A. Tomljenović, D. Katović: The Microwaves – Solution for Improving Polyester Woven Fabrics UV Protective Properties, ITC&DC - 4rd International Textile, Clothing & Design Conference, Dubrovnik, Croatia, October 5th – 8th, 2008., 898-903
A. Tomljenović, E. Pezelj, F. Sluga, B. Orel: Interlaboratory Comparison of Fabrics UV Protective Effectiveness, ITC&DC - 4rd International Textile, Clothing & Design Conference, Dubrovnik, Croatia, October 5th – 8th, 2008., 904-909
A. Tomljenović, R. Urbas, T. Rolich: UV/VIS/NIR Spectrometry Analyses of Multifunctional Woven Fabrics, Book of Proceedings 2nd Scientific-Professional Symposium Textile Science & Economy, TTF Zagreb, 23. January 2009., Zagreb, Croatia, 221-226

Teacher data

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Curriculum vitae:

PhD Miroslav Tratnik, assistant professor. Education: from 1953 to 1961 Primary school Čađavica, from 1961 to 1965 Secondary commercial school of Osijek and Slatina. In 1970 he graduated from the Department of Agriculture and Economics. In 1987 he won his master's degree at the Department of Economics and Rural Sociology of the Faculty of Agriculture of the University of Zagreb. In 1993 he won his doctor's degree at the Department of Economics and Rural Sociology of the Faculty of Agriculture of the University of Zagreb. In 1998 he was elected assistant professor and is expected to be elected associate professor. He participated in several conferences in Croatia and abroad, postgraduate study in "Agroindustrie et Marketing" (IAMM) at Montpeller, France, he defended his master degree entitled "Agrotourisme et Combinat". He has been employed at the Department of Economics and Rural Sociology of the Faculty of Agriculture of the University of Zagreb since 1971.

Since 2001 he has been a part-time lecturer at the Faculty of Textile Technology in the courses Economics and Marketing and Market Economy. Since 2004/2005 he is an assistant in the postgraduate studies of Business System Management and Economics and Marketing.

Date of last election:	July, 1998.

Referent publications of lecturer:

Tratnik, M.; Rogale, D.; Ljubić, D.; Stracenski, Maja; (2004.): Perception and Position of Jeans Brands Among Students of the Zagreb University, Magic World of Textiles; Book of Proceedings of the 2nd ITC&DC, Dubrovnik,Croatia

Stracenski, Maja; Tratnik, M.,(2004.): The Influence of Young People's Age on Buying Clothes, Magic World of Textiles; Book of Proceedings of the 2nd ITC&DC, Dubrovnik,Croatia

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Salopek, Ivana; Tratnik, M.; Stracenski, Maja; (2004.): Basic Marketing Elements Determining Design of Textile Fabrics, Magic World of Textiles; Book of Proceedings of the 2nd ITC&DC, Dubrovnik, Croatia

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Curriculum vitae:

I was born 10 May, 1945 in Zagreb. After leaving the high school of Požega I studied German and Italian at the Faculty of Philosophy of the University of Zagreb for 2 years. Afterwards I enrolled in the University of Design in Bielefeld, Germany. After a four-year-study at the Departments of Fashion Design and Fashion Graphics I graduated in fashion design (Designer Grad, from 9 September 1968 through 30 June 1972). My foreign degree was validated 21 December 1978 and is equivalent to the degreee from the Faculty of Arts and Crafts in Belgrade with the title: Graduate painter - costume designer. Abroad I won the first DuPOnt award, and I was employed as a fashion designer in Duesseldorf for two years. From 1 October, 1973 through 30 September, 1987 I was employed as a designer at Vesna Zagreb. After a 14-year employment in industry with 11 awards for clothing collections and projects I was a lecturer in the course Clothing Desing at the Faculty of Technology. I was elected assistant professor 1 October, 1987 and associate professor for the course Artistic Clothing Design 18 May, 1998. I was elected full professor 16 November, 2004.

Since my election as assistant profesor and full professor the following author's works should be mentioned: university textbook, papers published in the journal Tekstil like reviews (2), professional papers (1), original scientific papers (3), conference papers and papers published in books of proceedings (10), papers published in international conferences with international review (5). All the published papers including the university textbook (ca 400 author's drawings), the Textile journal, were interdisciplinarily presented on inland and international conferences and congresses based on branch study and improvement with confirmation of artistic projects, fashion graphics and posters valued as exhibits. I am a research worker in the scientific research project of the Department of Clothing Technology (project 117003 and project 0117003). PhD Dubravko Rogale, professor, is project manager and chief resarcher.

Date of last election:	2004

Referent publications of lecturer:

Sveučilišni udžbenik:Maja Vinković: "Likovno projektiranje odjeće I", Tekstilno-tehnološki fakultet Sveučilišta u Zagrebu, Zagreb, 1999

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Curriculum vitae:

Born in 1955. Elementary school in Krivodol, high school in Imotski. From 1972. to 1974. study in Varaždin, from 1974. to 1978. in Zagreb, where became a graduated engineer of textil technology at Faculty of textil technology. From 1978. employed at Faculty of textil technology in Zagreb University as assistant lecturer in the field of knitwear manufacturing. Obtains a Master' s degree in 1982. and a doctor' s degree in 1997. at Faculty of textil technology in the University of Zagreb. Fields of professional, scientific and teaching interests: construction of knitting machines, technologic processes in knitwear manufacturing, analysis of technologic procedures, construction and analysis of knitwear. Published more than 120 different manuscripts; 40 original scientific papers, about 40 professional papers, papers in domestic and international congresses. Wrote two articles in Technical Encyclopaedia published by Leksikografski Zavod in Zagreb. Employed as assistant lecturer for 20 years and 5 years as a proffessor. He has about 15 teaching hours during a week and about 200 student per year.

Date of last election:	20. September 2004.

Refferent publications of lecturer:

Vrljičak Z., Srdjak M. i Ž. Penava: Nove spoznaje o opterećenju igle u procesu pletenja, Tekstil, 47(1998.),4, 183-190

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