No. 22

<table>
<tr><th colspan="6">Course syllabus for First cycle studies</th></tr>
<tr><td>1.</td><td>Course title</td><td colspan="4">Pre-treatment and finishing of textiles and clothing</td></tr>
<tr><td>2.</td><td>Code</td><td colspan="4">CDE5M3</td></tr>
<tr><td>3.</td><td>Study Program</td><td colspan="4">Clothing Design and Engineering</td></tr>
<tr><td>4.</td><td>Study program organizer (unit, institute, department, division)</td><td colspan="4">Faculty of Technology and Metallurgy, Institute of Textile Engineering</td></tr>
<tr><td>5.</td><td>Degree (first, second, third cycle)</td><td colspan="4">First</td></tr>
<tr><td>6.</td><td>Academic year / semester</td><td>2 year
3 semester</td><td>7.</td><td>Number of ECTS</td><td>5</td></tr>
<tr><td>8.</td><td>Instructors</td><td colspan="4">Prof. Dr. Igor Jordanov</td></tr>
<tr><td>9.</td><td>Prerequisites for course enrollment</td><td colspan="4">Textile fibers 2 (verfied)</td></tr>
<tr><td>10.</td><td colspan="5">Objectives of the course syllabus (competences):
Introduction to the basic stages of textile preparation for bleaching and dyeing, as well as the individual finishing procedures aimed at providing better functional and visual properties.

Acquired skills (competences):</td></tr>
<tr><td>11.</td><td colspan="5">Content of the course:
Surface Active Agents:
An overview of surfactants, including their classification and applications in the preparation and finishing of textiles.
Preparation of Textile Products for Dyeing:
The various processes used to prepare fabrics for dyeing, including:
• Sizing: The application of starch to add stiffness to textiles.
• Scouring: The process of boiling fabrics to remove residues and prepare them for further treatments.
• Mercerization: A chemical treatment of cotton to enhance its luster, strength, and dye affinity.
• Bleaching: The process of whitening fabrics by removing natural colorants.
Finishing for Improved Usability and Visual Appeal:
Processes aimed at enhancing the functionality and appearance of textiles, including:
• Anti-Wrinkle Finishing: Treatments that reduce creasing and maintain fabric smoothness.
• Hydrophobic and Oleophobic Finishing: Making fabrics resistant to water and oil penetration.
• Flame Retardant Finishing: Treatments that reduce flammability and improve fire resistance.
• Antistatic Finishing: Reducing static electricity buildup to improve comfort and handling.
• Ultraviolet Protection: Treatments that protect textiles from UV damage and fading.</td></tr>
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Antimicrobial Finishing: Protecting textiles from microorganisms like bacteria and fungi.
Moth-Proofing: Treatments that prevent damage from moths and other pests.
Anti-Shrinkage and Felting Treatment: Processes that minimize shrinkage and prevent unwanted felting.

Stabilization of Fabrics:
Techniques used to stabilize textiles made from wool, synthetic fibers, their blends, and cotton, ensuring dimensional stability and durability.
Mechanical Finishing:
Various mechanical processes used to modify the texture and appearance of textiles, including:

Uncurling: Straightening fibers to improve fabric appearance.
Shearing: Cutting the surface of the fabric to achieve a smooth or uniform finish.
Rayoning: The process of creating a soft, lustrous finish, often used in velvets and silks.
Ironing: Using heat and pressure to smooth out wrinkles.
Calendering: A process of passing fabric through heated rollers to create smoothness or a glossy finish.
Mangling: A process for pressing and smoothing fabrics, often used for linens.

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<tr><td>12.</td><td colspan="5">Study methods: lectures and consultations, laboratory exercises, homework, home study (exam preparation)</td></tr>
<tr><td>13.</td><td colspan="2">Total available time</td><td colspan="3">180</td></tr>
<tr><td>14.</td><td colspan="2">Allocation of available time</td><td colspan="3"></td></tr>
<tr><td rowspan="2">15.</td><td colspan="2" rowspan="2">Teaching activities</td><td>15.1.</td><td>Lectures theoretical teaching</td><td>45</td></tr>
<tr><td>15.2.</td><td>Exercises (laboratory, numerical, seminars, teamwork)</td><td>30</td></tr>
<tr><td></td><td colspan="2"></td><td></td><td></td><td></td></tr>
<tr><td rowspan="3">16.</td><td colspan="2" rowspan="3">Other types of activities</td><td>16.1.</td><td>Projects</td><td></td></tr>
<tr><td>16.2.</td><td>Independent tasks</td><td>15</td></tr>
<tr><td>16.3.</td><td>Homework and self-learning</td><td>90</td></tr>
<tr><td rowspan="5">17.</td><td colspan="5">Grading system</td></tr>
<tr><td>17.1.</td><td colspan="3">Test</td><td>80 points</td></tr>
<tr><td>17.2.</td><td colspan="3">Successfully realized laboratory/auditory exercises</td><td>10 points</td></tr>
<tr><td>17.3.</td><td colspan="3">Individual work/homework</td><td>5 points</td></tr>
<tr><td>17.4</td><td colspan="3">Participation</td><td>5 points</td></tr>
<tr><td rowspan="6">18.</td><td rowspan="6">Grading criteria (points/grade)</td><td colspan="3">Up to 61 points</td><td>5 (five) (F)</td></tr>
<tr><td colspan="3">From 61 to 69 points</td><td>6 (six) (E)</td></tr>
<tr><td colspan="3">From 70 to 79 points</td><td>7 (seven) (D)</td></tr>
<tr><td colspan="3">from 80 to 89 points</td><td>8 (eight) (S)</td></tr>
<tr><td colspan="3">From 90 to 95 points</td><td>9 (nine) (B)</td></tr>
<tr><td colspan="3">from 95 to 100 points</td><td>10 (ten) (A)</td></tr>
<tr><td>19.</td><td colspan="2">Prerequisites for taking the final exam</td><td colspan="3">11 points minimum from 17.2 – 17.4</td></tr>
<tr><td>20.</td><td colspan="2">Language in which lectures are conducted</td><td colspan="3">English</td></tr>
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21.	**Method for monitoring the quality of lectures**		Survey			
22.	**LITERATURE**					
	22.1.	Compulsory literature				
		No.	Author	Title	Publisher	Year
		1.	W.D.Schindler, P.J.Hauser	Chemical Finishing of Textile	Woodhead Publishing Limited	2004
		2.	S.R.Karmakar	Chemical Technology in the Pretreatment of Textile Processes	Elsevier	1999
		3.				
	22.2.	Additional literature				
		No.	Author	Title	Publisher	Year
		1.	T.L.Vigo	Textile Processing and Properties	Elsevier	1994
		2.				
		3.				