

COURSE SYLLABUS

University	UNIVERSITY OF ORADEA
Faculty	FACULTY OF ENERGY ENGINEERING AND INDUSTRIAL MANAGEMENT
Study program*	KNITTING AND CLOTHING TECHNOLOGY

I. Course Name: ELEMENTS OF AUTOMATION IN KNITWEAR

II. Course Details

No of hours/week						
Code	Semester	Credits	Lecture	Seminar	Laboratory	Project
IEMI-0518	8	5	2	-	2	-

III. Course coordinator (title, name, surname, e-mail): Ş.L.dr.ing.Liliana Doble liadoble@yahoo.com

IV. Course objectives

The kinematic and dynamic study of mechanisms of knitting machines, rectilinear or circular, equipped with automatic program control systems, with a focus on their specific mechanisms.

V. Course content

	No. of hours
V.1. Lecture (chapters/subchapters and paragraphs)	
1. Classification of automatic systems.	2
2. Automatic Program Control Systems / Program Control Mechanisms; Automatic selection programming systems	2
3. Automatic system for regulating technological parameters / Automatic adjustment of the depth of the bucllets; Automatic power voltage adjustment; Automatic power speed adjustment; Automatic power control systems; Automatic working speed adjustment systems	6
4. Automatic control and protection systems / Wire control and protection systems; Pin control systems; Automatic machine stop systems	6
5. Automatic systems for lateral movement of font with needles / Mechanisms where the lateral displacement of fonts is obtained through spatial cams; Mechanisms that use space cams and step-by-step motors to move fonts; Mechanisms using step-by-step motors and electronic control and control installations for font movement	6
6. Graphic Workstations / Configuration of Programming Stations; MA 7000 graphics station; Graphic station PV-Protti M1-Stoll graphics station; New Super Micro SDS2-Shima Seiki graphics station; MA-8500-Universal graphics station; S-500J-Jumberca graphics station; The graphic station of the Variatex TEJ 2500 machine; GRAPHIC station PATRONIK 2000-Terrot; PIC-Mayer&Cie Graphics Station; PPS-Monarch Graphics Station.	6
V.2. Laboratory:	
1. Establishing the correlation between the finesse of the knitting machine and the basic dimensions of needles	6
2. Mechanism of oscillating motion of the cylinder with needles in stocking knitting machines	8
3. Mechanisms of action of the port-cam sleigh to knitting machines of Romanian construction. The mechanism of action of the port-cam sleigh with constant stroke	8
4. Mechanisms of action of the port-cam sleigh to knitting machines of Romanian construction. Mechanism of operation of the port-cam sleigh with variable stroke	6

VI. Bibliography

Bibliografie	
1. IONESCU,D.S., BUDULAN C – <i>Elemente de automatizare a maşinilor de tricatat</i> , Editura MatrixRom, Bucureşti, 2010.	
2. IONESCU,D.S., BUDULAN C – <i>Proiectarea asistată de calculator în tricotaje</i> , Editura MatrixRom, Bucureşti, 2010.	
3. BUDULAN C. – <i>Proiectarea şi elemente de automatizare a maşinilor de tricatat</i> , Universitatea Tehnică „Gh. Asachi”, Iaşi, 1995.	
4. REICHER F. – <i>Elemente de proiectare a maşinilor din industria tricotajelor şi confecţiilor</i> , Editura	

Didactică și Pedagogică, București, 1981.

5.X X X – *Catalog de ace* (colecție), București.

6.X X X – *Industria textilă pentru tricotaje și confecții*, (colecție), București.

VII. Grading criteria

Activities	Assesment	% of final grade
Exam	Written exam: 1. Requirements in order to get the minimum grade for passing the exam: correct answer to three of the questions of the written knowledge assessment test 2. Requirements for the maximum grade: correct answer to all of the questions of the written knowledge assessment test	80%
Seminar/Laboratory/Project	100% presence at the laboratory	20%

VIII. Learning outcomes:

- Accumulating knowledge of the automation of knitting machines
- Understanding how different types of machines and machines specific to the industry work
- Ability to process technical data provided by the specific machine (areas of applicability)
- Ability to make appropriate decisions on the usefulness and applicability of the technical performance of different automated machines in the field of activity

Course coordinator,
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