COURSE SYLLABUS

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

I. Course Name: PROCESSES AND KNITTING MACHINES I

II. Course Details

No of hours/week						
Code	Semester	Credits	Lecture	Seminar	Laboratory	Project
IEMI-0616	**7**	**6**	**3**	**-**	**2**	**-**

III. Course coordinator (title, name, surname, e-mail): Ş.L.dr.ing. Böhm Gabriella, bohmgaby@gmail.com

IV. Course objectives

The aspects treated – knowledge of knitting technologies on rectilinear machines, study of the main mechanisms and devices of knitting machines, analysis of the technological possibilities of knitting machines, technological programming of knitting machines, regulation of technological parameters of operation of knitting machines – contributing to the professional completion of the future engineer, its success in the optimal use of industrial machines.

V. Course content	**No. of hours**
V.1. Lecture (chapters/subchapters and paragraphs)	
1. Analysis and synthesis of technological processes for the manufacture of knitted products. Analysis and synthesis of particular technological schemes according to the shape and destination of the knits, the machine used and the raw material.	3
2. Analysis of the technological phases of the knitting operation. Connecting relationships between the technical characteristics of knitting machines and the dimensional elements of the knitting structure.	3
3. Technological processes for the manufacture of products for garments. General elements of the technological process	3
4. Analysis of the phases of knitting processes on the rectilinear knitting machine. The knitting process with pre-bucleted.	3
5. Analysis of the phases of knitting processes on the rectilinear knitting machine. Knitting procedures with final buclets. Combined knitting procedure	3
6. Structure of a rectilinear knitting machine. Mechanisms of the knitting rectilinear machine.	3
7. Acting knitting needles	3
8. Production of knits on two-font knitting machines. Classification and general characterization of knitting machines. The evolution of the construction of knitting and mesh transfer lets in knitting machines with one and more systems.	3
9. Analysis of technological possibilities on two-font knitting machines.	3
10. Evolution of knitting technologies on knitting machines. Elements for regulating the mechanisms of knitting machines	3
11. Overview. Machine mechanisms.	3
12. Analysis of the technological possibilities of the rectilinear knitting machine with group selection at two levels	3
13. Production of lincs knits on knitting machines. Transfer of needles.	3
14. The peculiarities of the knitting process in the same direction on knitting machines of utomate, patent and lincs.	3
V.2. Laboratory:	
1. Technological study of the mesh formation mechanism on the Cotton knitting machine	**2**
2. Designing contoured plane panels on Cotton knitting machine	2

3. Technological study of knitting machine mechanisms, analysis of needle trajectories on knitting machine R11, R12.	2
4. Programming of the mesh-forming mechanism for knitting with different structures on the knitting machine R11, R12	2
5. Technological study of the mechanisms of the Knitting Machine R50.	2
6. Analysis of needle trajectories and programming of the mesh formation mechanism for making knits with different structures on the R50 knitting machine.	2
7. Knitting machine R50. Design of the knitting program for the creation of an automatic chain knitting panel.	2
8. Technological study of the mechanisms of the knitting machine MC748.	2
9. Analysis of needle trajectories and programming of the mesh formation mechanism for making knits with different structures on the KNITTING machine MC748.	2
10. Knitting machine MC 748. Design of the knitting program for the creation of a knitted chain panel, in automatic mode	2
11. Technological study of circular knitting machine with a Multisingle cylinder – Textima	2
12. Technological study of Carpathian patent knitting circular knitting machine – Metalotechnics.	2
13. Test for the assessment of acquired knowledge .	2
14. Technological study of multiripp patent circular knitting machine – Textima.	2

VI. Bibliography

1. BUDULAN, R. –*Bazele tehnologiei tricoturilor*, Editura BIT, 1996;
2. DAN DORIN –*Procese şi maşini de tricotat. Maşini de tricotat automate mecanice,* Editura Performantica, Iaşi, 2005;
3. MACOVEI L., ŞERBAN V. –*Tehnologii şi utilaje în tricotaje* , Editura „Gh. Asachi", Iaşi, 2002;
4. MATEESCU, M. –*Tehnologia tricotajelor*, Editura didactică şi pedagogică, Bucureşti, 1970;
5. PENCIUC M.,BLAGA M. DORIN DAN –*Tehnologii de tricotare pe maşini rectilinii,* Editura Performantica, Iaşi, 2004;
6. PETREANU, C. –*Tehnologia tricotajelor. Maşini moderne*, Editura tehnică, Bucureşti, 1966;
7. POTORAN, I. –*Structura şi proiectarea tricoturilor*, Editura didactică şi pedagogică, Bucureşti, 1965;
8. REICHER, F. –*Elemente de proiectare a maşinilor din industria tricotajelor şi confecţiilor*, Editura didactică şi pedagogică, Bucureşti, 1971;
9. ŞERBAN, V.; MACOVEI,L. –*Tehnologii de tricotare pe maşini circulare*, Editura „Gh. Asachi", Iaşi, 2002;

VII. Grading criteria

Activities	Assesment	% of final grade
Exam	Written exam: 1. Requirements in order to get the minimum grade for passing the exam: to obtain a grade of 5 (five) all subjects are mandatory in the proportion of 50%. 2. Requirements for the maximum grade: For note 10(ten) all subjects are 100 % mandatory.	80%
Seminar/Laboratory/Project	100% presence at the laboratory	20%

VIII. Learning outcomes:

 Definition of principles and methods in the technical sciences of the field of knitting for the identification and analysis of the functional characteristics of specific processes.

 Use of basic knowledge to explain and interpret the processes, techniques and methods necessary for the correct design of knitwear and the appropriate choice of specific technological processes.

 Application of basic principles and methods for the aesthetic design of knitwear and specific technological processes.
 Appropriate use of standard criteria and methods of evaluation for the adoption of basic processes, techniques and methods applied to assess the quality and efficiency of knitting manufacturing systems.
 Development of specific professional projects, based on the selection, combination and use of established principles and methods in the technical sciences of the field of knitting for the identification and analysis of the functional characteristics of specific processes and machines.

Course coordinator,
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