

(Textile Engineering Department)

Undergraduate

**Course Title: Special Topics in Technology of Clothing Manufacture (II)**

**Prerequisite:** Technology of Clothing Manufacture (I)

**Number of Credits: 2**

**Lecturer: Dr. Fateme Mousazadegan**

**Course Topics:**

- The purpose of using reinforcement and criteria of interlining classification- The components of interlining and their influence on the cloth- The structure of base cloth
- Resins which are used in interlining and their properties- Method of coating base cloth with resin and their characteristics- Evaluation of resin density in the base cloth- The Criteria of selecting interlining- Requirements for bonding interlining and fabric to each other
- Equipment for fusing process- Various in-continuous equipment and their advantages and disadvantages- Continuous fusing equipment and their components- The methods of heating in continuous fusing machine- Pressure exertion in continuous fusing machine- Cooling fused layers- Systems to improve production speed- Controlling sensor in the continuous fusing machine
- Methods of layering for the fusing process, their application and requirements- Control method of fusing parameters- Bonding strength measurement- Common imperfection in fusing process and their reasons- Primary tests on the interlining and reports before manufacturing process
- The aims of press and ironing process- Various stages in press process and their influence on the fabric- Classification of press based on their performance in clothing- Various press equipment- Ironing stages and their components
- Flat press and its components- Various molding press and their performance- Steam dolly and its applications- Tunnel finisher and its performance- Showing film of various press machine application
- Welding seams and their advantages and disadvantages- The methods of heating in welding seams- Effective factors on the quality of welding seam- Various seam Orientation in welding
- Heat sealing of seams and its application- Ultrasonic welding and its advantages and disadvantages- Equipment for ultrasonic welding- The characteristics of materials for ultrasonic welding- ultrasonic welding application
- Dielectric welding process- Application of dielectric welding- Laser welding- Various Seam in laser welding- Effective factors in laser welding
- Adhesive seams- Various failure mode in adhesive bonding- Performance of Adhesive based on the life span- Evaluation of adhesive bonding strength of permanent and temporary seams- Adhesion theories- The application of adhesion in the clothing
- Textile coating- Textile lamination- Coating methods and their application- Lamination methods and their application
- Protective clothing- Classification of various protection and their requirements- Selection of materials and textile for protective clothing

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- **Smart textile and its types- The advantages of using smart textile in clothing- Requirements of a smart cloth- Disadvantages of using textile as sensor- Samples of smart protective clothing**

- **Protection against UV and its importance- Evaluation methods of protective performance of textile against UV- Protection factors- Effective factors on the protective performance of fabric against UV**

- **Classification of chemical protective clothing based on design, performance and life span- Design factors of chemical protective clothing- Evaluation test of chemical protective clothing resistance against penetration- Evaluating integration of encapsulated chemical protective clothing**
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### **Reading Resources:**

- Introduction to Clothing Manufacture, Gerry Cooklin, Black well science Ltd, a Black well Publishing Company, 1991.
- Fusing Technology, Cooklin, G., The Textile Institute 1990.
- Joining Textiles, Principles and Applications, I. Jones and G.K. Stylios, Woodhead Publishing Ltd, 2013
- 1:fatemeh mousazadegan - 2:NAZANIN EZAZSHAHABI - 3:Masoud Latifi - , Fusing Technology in Clothing , Edition : 1 , Iran (Islamic Republic of) , 20 April2016
- Textiles for Protection, Richard A. Scott, Woodhead Publishing Limited, 2005.