

(Textile Engineering Department)

graduate

Course Title: Textile Physics

Lecturer: Dr. Saeed Sheikhzade

Course Topics:

Reading Resources:

- 1- Postle R, Carnaby G A and de Jong S (1988), The Mechanics of Wool Structures, Chichester, Ellis Horwood.
 - 2- Hearle, J.W.S., Grosberg, P., and Backer, S., Structural Mechanics of Yarns and Fabrics. 1969, New York: Wiley-Interscience.
 - 3- Jinlian HU, "Structure and mechanics of woven fabrics", Woodhead Publishing Limited in association with The Textile Institute, 2004 196-198
 - 4- B. K. Behera and P. K. Hari, "Woven textile structure; Theory and applications ", Woodhead Publishing Limited in association with The Textile Institute, 2010
 - 5- B. P. Saville, Physical Testing of Textiles, Woodhead Publishing Ltd and CRC Press LLC, 1999.
 - 6- "Modern Textile Characterization Methods" edited by Mastura Raheel, Publisher: MARCEL DEKKER, INC. New York, 1996 Chapter 10: Objective Measurement of Fabric Hand, by Sueo Kawabata and Masako Niwa
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- Journal Papers: 1- Hamilton R J and Postle R (1974), Bending and recovery properties of wool plain knitted fabrics, Text Res J, 44, 336–343.
- 2- Peirce F T (1930), The handle of cloth as a measurable quantity, J Text Inst, 21, P377– 416.
 - 3- Lindberg J, Behre B and Dahlberg B (1961), Mechanical properties of textile fabrics part III: shearing and buckling of various commercial fabrics, Text Res J, 31(2), 99–122.
 - 4- Jacqueline R. Postle and Ron Postle, "Fabric Bending and Drape Based on Objective Measurement", International Journal of Clothing science and Technology, Vol.4, No.5, 1992.
 - 5- Grosberg P (1966), The mechanical properties of woven fabrics part II: the bending of woven fabrics, Text Res J, 36, 205–211.
 - 6- Livesey, R. G., and Owen, J., Cloth Stiffness and Hysteresis in Bending, J. Textile Inst., 55, T516–T530 (1964).

7- Abbott, G. M., Grosberg, P., and Leaf, G. A. V., The Mechanical Properties of Woven Fabrics, Part VII: The Hysteresis During Bending of Woven Fabrics, Textile Res. J., 41, 345–358 (1971).

8- P. Grosberg and B.J. Park, (1966) “The Mechanical Properties of Woven Fabrics Part V the Initial Modulus and the Frictional Restraint in shearing of Plain Weave Fabrics”, Text Res J, 36, 338.

9- J. L. Hu, W. M. Lo, and M. T. Lo, (2000) “Bending Hysteresis of Plain Woven Fabrics in Various Directions”, Text Res J, 70 (3), 237-242.

10- Van Wyk C M (1946), Note on the compressibility of wool, J Text Inst, 37, T285.

11- De Jong, S., Snaith, J.W., and Michie, N.A., A Mechanical Model for the Lateral Compression of Woven Fabrics, Textile Res. J. 56 (12), 759-767 (1986).

12- L. R. G. Treloar, “The Effect of test-piece dimensions on the behavior of fabrics in shear“, Journal of the Textile Institute Transactions, Volume 56(10), 1965, T533-550.

13- S.M. Spivak and Treloar L.R.G., “The Behavior of Fabrics in Shear Part III: The Relation Between Bias Extension and Simple Shear “, Text Res J, 38, 963-971 (1968).