

(Textile Engineering Department)

Graduate

Course Title: Heat and Moisture Transfer Phenomenon in Garment

Lecturer: Dr. Ali Akbar Ghareaghaji

Course Topics:

- Human physiology and thermoregulation
- Interactions between body and clothing via skin
- Characterizing the structure and geometry of fibrous materials
- Fundamentals of heat transfer
- Heat transfer by conduction
- Heat transfer by convection
- heat transfer by radiation
- Heat transfer by sweating and evaporation
- Effect of interstructure of clothing in moisture transfer including porosity, pore size and pore tortuosity, fiber orientation
- Surface tension, wetting and wicking

Reading Resources:

- N. Pan and P. Gibson, Thermal and Moisture Transport in Fibrous Materials, Woodhead, 2006