

(Textile Engineering Department)

Graduate

Course Title: **Advanced Colorimetry**

Lecturer: **Dr. Seyed Hosein Amirshahi**

Course Topics:

- A review on colorimetry
- Metamerism indices and parametric corrections
- The structure of chromatic adaptation (CAT) models
- Fundamentals of color appearance models
- New color difference formulae
- Color reproduction algorithms
- Spectral data processing
- Colorimetric and spectrophotometric device characterizations

Reading Resources:

- Roy S. Berns, Fred W. Billmeyer, Max Saltzman, Billmeyer and Saltzmanns principles of color technology, Wiley, New York(2000).
- M. R. Luo, and R. W. G. Hunt, A chromatic adaptation transform and a colour inconstancy index, Col. Res. Appl. J., 1997, pp. 154-158.
- H S Fairman and M H Brill, The Principal Component of Reflectances, Col. Res. Appl. J., 2004, pp. 104-110.
- R S Berns, A Generic Approach to Color Modeling, Col. Res. Appl. J., 1997, pp. 318-325.
- Z Li and R S Berns, Comparison of Methods of Parametric Correction for Evaluating Metamerism, Col. Res. Appl. J., 2007, pp. 293-303.
- T Zeng and R S Berns, A Review of Principal Component Analysis and Its Applications to Color Technology, Col. Res. Appl. J., 2005, pp. 84-98.
- Agahian, F. and Amirshahi, S.H., "A New Matching Strategy: Trial the Principal Component Coordinates", Color Res. & Appl. J., Vol. 33, No. 1, pp 10-18, 2008.