BIOCHEMISTRY

(3+0 Cr. Hr.)

COURSE OBJECTIVES

To prepare the students for better understanding of biochemical approach regarding basic nutritional components enabling to apply this knowledge in major disciplines of Sports Nutrition and other sciences.

COURSE CONTENTS:

i. **Biochemistry of Carbohydrates**
   a. Biochemical structure of Mono, di, Oligo and Polysaccharides
   b. Biochemical Importance of Mono, di, Oligo and Polysaccharides

ii. **Biochemistry of Fats**
   a. Biochemical structure of Solid and Liquid Fats
   b. Biochemical significance of Solid and Liquid Fats

iii. **Biochemistry of Proteins**
   a. Biochemical structure of Amino Acids
   b. Biochemical significance of Essential and Non-essential amino acids

iv. **Metabolic Pathways**
   a. Kreb's cycle
   b. Glycolysis
   c. Electron Transport Chain

RECOMMENDED BOOKS

1. Harborne, J. B. (2014). *Introduction to ecological biochemistry*. Academic press.
2. Muller, F. (2018). *Chemistry and Biochemistry of Flavoenzymes: Volume II*. CRC Press.
3. Lundblad, R. L., & Macdonald, F. (Eds.). (2018). *Handbook of biochemistry and molecular biology*. CRC Press.
4. Clines, G. A. (2014). Cell, Biochemistry, and Molecular Biology of Bone.
5. Kenney, W. L., Wilmore, J., & Costill, D. (2015). *Physiology of sport and exercise 6th edition*. Human kinetics.