BSHND 306: SPORTS NUTRITION

Course Learning Outcomes:

- To emphasize the importance of proper fueling for physical activity, pre- and post-workout
- To provide an overview about dietary supplements, how they are regulated and how to avoid use of contaminated dietary supplements
- To highlight the risks associated with performance enhancing drugs including anabolic androgenic steroids

Content-Theory:

1. **The principles of fitness, motivation and conditioning**
   - Nutrition for the athletes,
   - Stress management, preventing accidents,
   - Stretching, posture and aerobics;
   - Vitamins and minerals supplementation for fitness;
2. **High and low intensity exercise, cross training, walking for weight control and case studies; Introduction to muscle contraction**,
   - Fast and slow fibres,
   - Energy storage, fuels used for exercise;
   - Balance, fluid balance,
   - Fuelling cycle: pre-exercise, during exercise and during recovery;
   - Athletes eating plan,
   - calorie goals, calorie values,
   - Carbohydrate goals, protein goals, fat, vitamins and mineral goals;
   - Competition nutrition;
   - Loosing, gaining and making weight for athletes;
   - Eating disorder and athletes;
   - sports drink and supplementation;
   - National and international regulations for supplements
3. **Risks associated with performance enhancing drugs**;
   - Metabolic Equivalent Task;
   - My pyramid for sportsman.

Content-Practical:

1. **Bioelectric impedance analysis**
   - Sweat rate and hydration status calculation;
   - Calculation of BMR and RMR;

2. **Diet planning for different sportsmen like body builders, athletes, swimmers, etc.**
3. **Preparation of sports drinks and food products according to accelerated needs**
    - Use of sports supplements.
4. **Visit of sports centers and fitness clubs.**

Teaching-Learning Strategies:

Teaching will be a combination of class lectures, class discussions, and group work. Short videos/films will be shown on occasion.

Assignments:

The sessional work will be a combination of written assignments, class quizzes, presentation, and class participation/attendance.

Assessments and Examination:

Sessional Work: 25 marks

Midterm Exam: 35 marks

Final Exam: 40 marks

Recommended Readings:

1. Antonio, J., Kalman, D. J., Stout, R., Greenwood, M., Willoughby, D.S. & Haff, G.G. (2008). Essentials of Sports Nutrition and Supplements. Humana Press, New York, USA.

2. Driskell, J.A. (2007). Sports Nutrition Fats and Proteins. CRC Press, Taylor and Francis Group, Boca Raton, FL, USA.

3. Fink, H.H., Mikesky, A.E. & Burgoon , L.A. (2011). Practical Applications in Sports Nutrition, (3rd ed). Jones & Bartlett Learning Burlington, MA, USA.

4. Lanham-New, S.A., Stear, S.J., Shirreffs, S.M. & Collins, A.L. (2011). Sports and Exercise Nutrition. Wiley-Blackwell, John Wiley & Sons Ltd., Chichester, West Sussex, UK.

5. Maughan, R.J. (2000). Nutrition in Sport: The Encyclopedia of Sports Medicine. Wiley-Blackwell, John Wiley & Sons Ltd., Chichester, West Sussex, UK.