

Exercise Physiology in soccer

Semester 1

Learning outcomes

Upon successful completion of the course, students will be able to:

- understand the biological adaptations caused by exercise to maximize human performance in soccer
- apply the basic principles of exercise physiology in soccer
- describe the mechanism of the oxygen transport and consumption system during training
- design exercise programs for soccer players at various levels based on the principles of exercise physiology

Content

- Energy sources - Metabolism- Muscle work
- Oxygen transportation and consumption system
- Exercise-induced effects and adaptations of the respiratory muscles
- Exercise-induced hypoxemia. Hemoglobin saturation curve
- Muscle contraction - Electromechanical coupling
- Cardiovascular system and exercise (theory)
- Cardiovascular system and exercise - exercise testing (practise)
- Ergogenic aids
- Free Radicals - Antioxidants
- Exercise testing in soccer I
- Exercise testing in soccer II
- Practice in professional club
- Practice in professional club

Assessment

Written final exams

Bibliography/journals

Postgraduate Degree in Soccer Training and Injury Prevention

Journal of applied physiology

European Journal of applied physiology

Journal of neurophysiology

Medicine and Science in Sports and Exercise