**Year 11 ATAR PES Study Guide – Exercise Physiology**

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| **TOPIC/ SUBHEADING** | **Notes** | **Workbook** | **Study** | **Questions** |
| COMPONENTS OF FITNESS   * What is fitness * Fitness testing * Health related components of fitness   + Cardiorespiratory endurance   + muscular strength   + muscular endurance   + flexibility   + body composition * Performance related components of fitness   + Speed   + Power   + Agility   + Reaction time   + Coordination   + Balance |  |  |  |  |
| PRINCIPLES OF TRAINING   * Specificity * Progressive overload (FITT)   + Duration   + Intensity   + Frequency * Training thresholds (aerobic/anaerobic) * Reversibility |  |  |  |  |
| TYPES OF TRAINING   * Anaerobic training * Aerobic training * Strength training * Speed training * Power training * Flexibility training |  |  |  |  |
| METHODS OF TRAINING   * Interval training (long & short) * Continuous training * Fartlek training * Resistance strength training (strength/power/endurance/muscle bulk) * Isometric strength training * Circuit training * Plyometrics * Flexibility training |  |  |  |  |
| ENERGY SYSTEMS   * ATP-PC system * Anaerobic glycolysis system * Aerobic system * Energy system interplay |  |  |  |  |
| NUTRITION   * Protein * Fats * Carbohydrates * Glycemic Index (GI) – Low & High GI Foods * Carbohydrate Loading * Fluids * Sport Nutrition – Pre, During & Post event meals |  |  |  |  |
| IMMEDIATE RESPONSES TO TRAINING   * Increased CO * Increased HR * Increased SV * Increase BP * Increased Avo2 difference * Redistribution of blood * Temp regulation * Increased ventilation * Increased gaseous exchange * Increased 02 consumption |  |  |  |  |
| LONG-TERM (CHRONIC) ADAPTATIONS TO TRAINING AEROBIC AND ANAEROBIC   * Cardiac output * Heart rate * Stroke volume * Blood pressure * Blood volume * Capillarisation * Ventilation * O2 exchange * Muscle hypertrophy * Increased flexibility * Increased aerobic and anaerobic capacity |  |  |  |  |