

Foundation Course: Module Synopsis

Module 1 – Biomechanical Concepts

- 1.1 Introduction to Biomechanics
- 1.2 Branches of Biomechanics
- 1.3 Newton's Laws of Motion
- 1.4 Biomechanical Terms and Concepts
- 1.5 Motion
- 1.6 Descriptors of Movement
- 1.7 Flight & Angular Motion
- 1.8 Torque, Coupled forces & Angular Momentum
- 1.9 Summation of force
- 1.10 Observation and Feedback

Module 2 – Applied Physiology

- 2.1 Introduction to Physiology
- 2.2 Introduction to the structure of the muscular system
- 2.3 Factors impacting the generation of muscular force
- 2.4 Muscular adaptations to resistance training
- 2.5 The Nervous System
- 2.6 Biochemistry and Sport Performance
- 2.7 Neuroplasticity & Neuropsychology
- 2.8 Energy systems and their interaction
- 2.9 Endocrine & Integumentary Systems
- 2.10 Fatigue, Stress, Rest & Recovery
- 2.11 The effect of travel on athlete physiology
- 2.12 Special considerations for female athletes
- 2.13 Anecdotal thoughts on physiology in action

Module 3 – Functional Anatomy & Kinesiology

- 3.1 Introduction to Anatomy & Kinesiology
- 3.2 Anatomical Terminology
- 3.3 Systems of the human body
- 3.4 The Skeletal System
- 3.5 Skeletal development
- 3.6 Spinal abnormalities & skeletal injury
- 3.7 Joints
- 3.8 Microstructure of the muscular system – recap
- 3.9 The muscular system explored
- 3.10 Muscles of the human body – Upper Body
- 3.11 Muscles of the human body – Hip, pelvis and lower body
- 3.12 Muscles of the human body – The 'core'
- 3.13 The Fascial Matrix and Sling Systems
- 3.14 Muscular injury and its treatment

Module 4 – Training Methodology

- 4.1 Methodology defined
- 4.2 Adaptation
- 4.3 A review of periodization methods
- 4.4 An introduction to loading
- 4.5 Exercise classification
- 4.6 Loading methods
- 4.7 Specificity
- 4.8 Variation
- 4.9 Individualization

Module 5 – Planning & Organization

- 5.0 Introduction to Planning
- 5.1 General Plans for Specific Populations
- 5.2 Planning a Club Document
- 5.3 Planning for Specific Event & Player Groups
- 5.4 The Annual Plan
- 5.5 Medium-term Planning for Reaction-Based Programming
- 5.6 Microcycle Planning
- 5.7 Session Planning

Module 6 – Progressions

- 6.1 Introduction
- 6.2 The need for progressions
- 6.3 Long term progressions into high performance sport
- 6.4 Bulletproofing – creating a healthy athlete
- 6.5 Long-term progression of biomotor abilities
- 6.6 Long term endurance progressions
- 6.7 Long-term speed progressions
- 6.8 Long term strength progressions
- 6.9 Long Term Special Strength Progressions

Module 7 – Cueing

- 7.1 Introduction to cueing
- 7.2 An Overview: Learning, Technique, and Technical Models
- 7.3 Delving Deeper: Motor and Skill Learning
- 7.4 Motor Learning Theories
- 7.5 Practice to Actualization
- 7.6 Understanding the Teaching Process
- 7.7 Feedback
- 7.8 Cue formats
- 7.9 Practical cueing strategies



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Module 8 – Athlete Management

- 8.0 Introduction to Athlete Management
- 8.1 Personality & Behavior
- 8.2 Environment & Group Management
- 8.3 Coach-Athlete Communication & Reporting
- 8.4 Key Performance Indicators, Accountability, Goals
- 8.5 'Balance' & Transition
- 8.6 Millennials & Resilience
- 8.7 Managing Relationships
- 8.8 Maximizing Competitive Performance
- 8.9 Coach Health

Module 9 – Strength Development Fundamentals

- 9.1 First Principles in Muscular Strength
- 9.2 Loading Parameters
- 9.3 Eccentric Training
- 9.4 Writing the Program
- 9.5 Monitoring & Data Collection
- 9.6 Strength & Power Assessment

Module 10 – Strength Exercise Inventory

- 10.1 – Warm-Ups for Strength Training
- 10.2 – Zone 1 Exercises
- 10.3 – Zone 2 Exercises
- 10.4 – Zone 3 Exercises
- 10.5 – Structural Integrity/Tolerance
- 10.6 – Rotational Exercises
- 10.7 – Bodyweight Exercises

Module 11 – Speed Development Fundamentals

- 11.1 An Introduction to Speed
- 11.2 Speed: Models, Systems & Theories
- 11.3 Fundamentals of Sprinting
- 11.4 Speed: The ALTIS Philosophy
- 11.5 Speed: The Start-Point
- 11.6 Speed: Acceleration Concepts
- 11.7 Speed: Maximum Velocity
- 11.8 Speed: Error Detection and Correction



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Module 12 – Speed Exercise Inventory

12.1 – Preparing for Speed

12.2 – Developing Starting Abilities

12.3 – Acceleration Development

12.4 – Maximum Speed Development

12.5 – Developing Speed Endurance

12.6 – Plan B for Speed

12.7 – Programming Considerations for Speed Development

12.8 – Foundation Course Graduation