

# Unit Outline (Higher Education)

**Institute / School:** Institute of Health and Wellbeing

**Unit Title:** Physical Preparation for Sport

**Unit ID:** EXSCI3002

**Credit Points:** 15.00

**Prerequisite(s):** (EXSCI2171 and EXSCI2175)

**Co-requisite(s):** Nil

**Exclusion(s):** Nil

**ASCED:** 069903

**Description of the Unit:**

This unit is concerned with all aspects of physical preparation for athletes participating in competitive sport. It covers principles and applications of training for endurance, speed qualities, strength qualities, agility, body composition, periodising and planning programs, monitoring training, recovery, screening for injury prevention, and issues such as altitude training and overtraining. The unit also covers principles of assessment of physical qualities, criteria for selection of tests such as validity and reliability, and interpretation of test results. Through assignment work, students are required to gather evidence from research and other sources to provide a rationale for efficacious training and testing of athletes.

**Grade Scheme:** Graded (HD, D, C, P, MF, F, XF)

**Work Experience:**

No work experience

**Placement Component:** No

**Supplementary Assessment:** Yes

Where supplementary assessment is available a student must have failed overall in the Unit but gained a final mark of 45 per cent or above, has completed all major assessment tasks (including all sub-components where a task has multiple parts) as specified in the Unit Description and is not eligible for any other form of supplementary assessment.

**Course Level:**

Level of Unit in Course	AQF Level of Course					
	5	6	7	8	9	10
Introductory	■	■	■	■	■	■
Intermediate	■	■	■	■	■	■
Advanced	■	■	✓	■	■	■

### Learning Outcomes:

#### Knowledge:

- K1.** Identify the principles of training & testing athletes of varying performance levels
- K2.** Identify energy systems and fitness components and their contribution to sports performance
- K3.** Describe the key physiological adaptations to various training methods
- K4.** Analyse the physiological basis of tests of speed qualities, strength qualities and endurance
- K5.** Interpret and apply the principles of periodisation of training for sport
- K6.** Describe the components of a training session
- K7.** Analyse the causes and symptoms of overtraining and monitoring training load
- K8.** Critique and describe research that informs effective training programs
- K9.** Evaluate protocols for safe administration of fitness tests for athletes

#### Skills:

- S1.** Analyse and interpret sports performance and available literature to identify the important fitness components
- S2.** Appropriately interpret and apply training principles and knowledge of sport science disciplines to prescribe training programs for performance enhancement
- S3.** To be able to select, conduct and interpret selected tests for athlete assessment
- S4.** To develop a detailed periodised program for physical conditioning for a selected sport
- S5.** Analyse and interpret test results to inform the creation of appropriate training programs
- S6.** To effectively communicate evidence-based training and testing
- S7.** To administer selected sport-specific tests

#### Application of knowledge and skills:

- A1.** Evaluate research to identify evidence for effective training programs and test batteries
- A2.** Construct a 12 month physical conditioning training program based on principles of training and research evidence
- A3.** Construct a battery of tests for a sport based on the needs of the athlete and sport based on research evidence.

#### Unit Content:

This may include:

- Training principles (progressive overload, specificity, cross training, long term athlete development, recovery, reversibility, diminishing returns, individuality).
- Warm-up design, role of static and dynamic stretching, use of post-activation potentiation in warm-up.
- Training and testing speed qualities (acceleration, maximum speed, speed-endurance/repeat speed ability)
- Training and testing agility, difference between change of direction and agility.
- Endurance training and testing. Energy system contributions in different sports, aerobic power, lactate

threshold, physiological mechanisms of endurance training. Factors limiting aerobic capacities, physiology of VO<sub>2</sub> max. Interval training, individual and team sport applications game-based conditioning.

- Analysis of the important physical qualities for sports
- Periodisation of training and how do design an annual training plan
- The role of injury prevention in sports conditioning, musculo-skeletal and other screening methods
- Training and testing of maximum strength, power, reactive strength & strength-endurance, plyometric training, core stability training, role of hypertrophy methods, physiological basis of strength qualities, principles of resistance training, programming for strength.
- Role & principles of testing, designing a test battery, interpreting results, using test norms, understanding reliability and validity of tests, using test results to design training.
- Power training and plyometrics
- Using GPS in individual and team sports

### Learning Task and Assessment:

Learning Outcomes Assessed	Assessment Tasks	Assessment Type	Weighting
S3, S4, S5, S6, S7	Attendance and participation in laboratory sessions to complete formative assessments of practical skills.	90% attendance required to satisfy ongoing assessment of practical skills	Satisfactory/Unsatisfactory
K1, K2, K3, K4, K6, K7, S2, S3, S5, S7	Review of all material covered throughout the unit.	Written exam	30-40%
K3, K4, K5, K8, S1, S2, S4, S6, A1, A2	Training assignment (proposal and paper): Analyse sports to develop a periodised training program. Use of research to justify effective programs.	Written paper	30-40%
K9, S1, S3, S5, S6, A1, A3	Testing assignment: Analyse sports to determine important physical qualities. Plan a test battery based on evidence.	Written paper	25-35%

### Adopted Reference Style:

APA ()

Refer to the [library website](#) for more information

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