**BTEC Assignment Brief**

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| **Qualification** | Pearson BTEC Level 3 National Extended Diploma in Sport  |
| **Unit number and title** | **Unit 5: Application of Fitness Testing** |
| **Learning aim(s)** (For NQF only) | **A:** Understand the principles of fitness testing**B:** Explore fitness tests for different components of fitness |
| **Assignment title** | Investigating and implementing fitness testing practices |
| **Assessor** | James Mepham |
| **Issue date** | 4/1/2020 |
| **Hand in deadline**  | 5/2/2020 |
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| **Vocational Scenario or Context** | As a student on the Level 3 BTEC Sport programme Norwich City RDP has approached you about the potential of becoming an established assistant coach for developing sports players in the RDP. The club are particularly interested in developing the physical conditioning of the athletes and are looking for someone to assist with the fitness testing procedures to determine the current fitness levels of a range of athletes. You are required to demonstrate your practical skills and understanding of fitness testing procedures through a variety of tasks that have been discussed, and agreed, in a recent committee meeting of club members.  |
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| **Task 1** | **Written report on validity, reliability, practicality and ethical considerations.**The RDP head coach would like you to demonstrate your understanding of testing procedures by creating a report outlining the validity, reliability, practicality and ethical considerations when planning and conducting fitness tests with different clients. Within your report it is suggested that you include the following concepts:Validity* Define validity with clear explanations to demonstrate an understanding what validity means and the application to fitness testing.
* Provide examples from a range of sports to explain validity of fitness test for different sports performers.

Reliability * Explain the concept of reliability to show you understanding of what reliability means.
* Explain the concept of Benchmarking data.
* Recommend methods explaining examples of methods you would undertake to ensure that fitness tests are carried out in a reliable manner (for example pre-tests, calibration of the equipment, warm-up, and fitness test technique practice).
* Recommend methods explaining the importance of following the correct protocol during fitness tests and the impact of the skill level of the administrator, adherence to test protocol, constant conditions, and appropriate rest period between tests.

Practicality and suitability of fitness tests* Recommend methods explaining the factors affecting the practicality of fitness tests including cost, time, equipment and available facilities.
* Recommend methods explaining how individual differences can affect the suitability of fitness tests selection. (e.g. type of sport, individual differences of the sports performer and fitness levels of the performer).

Ethical issues * Recommend methods explaining how you should follow the appropriate ethical procedures with participants prior to and during fitness testing.
* Recommend methods of the ethical procedures that you would follow prior to and during fitness testing (e.g. informed consent form, reasons for terminating a test, ensuring suitable rest periods, appropriate hydration and suitable warm up for selected tests).
* Recommend methods explaining how you would ensure data protection when recording results, maintain confidentiality of data and in consideration of these factors storage of the data collected.
* Explain any principles you would need to follow regarding ethical clearance to carry out testing on sports performers.
* Recommend methods demonstrating how you would ensure the welfare of the subject throughout the test procedures.
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| **Checklist of evidence required**  | A written report on the principles of fitness testing, including the following discussion of the flowing features: * Validity
* Reliability
* Practicality
* Suitability
* Ethical requirements
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| **Criteria covered by this task:** |
| Unit/Criteria reference | To achieve the criteria you must show that you are able to: |
| 5/A.P1 | Explain the importance of validity, reliability, practicality and suitability in relation to fitness testing. |
| 5/A.P2 | Explain how ethical requirements should be met when planning and conducting fitness testing, giving examples. |
| 5/A.M1 | Recommend methods that can be used to ensure fitness testing is conducted in a valid, reliable, practical, suitable and ethical way. |
| **Task 2** | **Presentation, test administration and review**Prepare a presentation for the head coach that justifies the fitness tests that you have selected to carry out on your team or individual. This must include six appropriate tests to be carried out. This will allow your team leader to decide whether you have developed the necessary skills, and are fully prepared, to undertake the practical component of the fitness testing proceduresWithin your presentation a thorough assessment of the practicality and suitability of each selected fitness test should be provided for your selected sports performer. The following features should be included:* The specific subject requirements for your sports performer including their particular sport/physical activity, their age, gender and current physical activity levels.
* An explanation of physical fitness tests and skill related fitness tests and assess practicality and suitability regarding how this was considered in your test selection.
* An explanation and assessment of why each of the six selected fitness tests are suitable, valid, reliable, practical,
* Explain the sequence of the testing to be carried out and why.
* Explain the test procedure to be carried out and how you will include a demonstration, instruction, and any practice attempts.
* Explain and assess how you will ensure the health and safety of the participant prior to, during and after the fitness testing (e.g. subject screening, informed consent, pre-test warm).

Following your presentation you are required to undertake your six selected fitness tests in a safe and effective manner demonstrating skills to ensure the test results are accurate and reliable. This must include **video evidence** of the test procedures. Your roles and responsibilities as a fitness tester are as follows and these are the features which you will be assessed on:Roles * Organise equipment and facility
* Motivator – ensure you prepare the client for tests including a warm-up, client consultation and pre-test procedures
* Maintaining a good rapport with clients
* Accurate recording of all results

Responsibilities * Observation of tests, correct technique, client needs, suitable testing for age, sport and fitness levels
* Pre-test checks - on equipment, on client, recording documentation

The range of potential fitness tests to choose from are outlined below:Physical fitness tests* Flexibility - sit and reach, shoulder flex test, calf muscle flexibility test, trunk rotation test.
* Strength - 1RM tests, grip dynamometer, seven stage abdominal strength test.
* Aerobic endurance - multi-stage fitness test, maximal oxygen consumption test (VO2max),
* 12 minute Cooper test, Harvard step test, Rockport walk test.
* Speed - sprint tests - 20 meters, 30 meters, 40 meters, 50 meters, 60 meters.
* Muscular endurance - one-minute press-up, one-minute sit-up, wall sit test.
* Body composition - skinfold callipers, bioelectrical impedance analysis, body mass index
* (BMI), girth measurements.

Skill-related fitness tests* Agility - Illinois agility run test, T-test, Side-step test.
* Balance - stork stand test, beam walk.
* Co-ordination - wall-toss test.
* Power - vertical jump test, standing long jump test, Margaria Kalamen power test, seated medicine ball throw, cricket ball throw test, Wingate test.
* Reaction time - ruler drop test.

Following the practical delivery of the fitness tests on the sports performer you are now required to provide the head coach with a written report which interprets the fitness test results against recognised normative data. The report must also analyse your own administration of the tests with suggestions for improvements. The following features should be incorporated into your report:* Comparison of the clients test scores making judgements against peers, sports performers, norms for elite athletes, and considering if results are in line with accepted health ranges.
* A review of the suitability of fitness test selection and how well you carried out the session.
* Justified suggestions regarding methods to improve your own administration of selected fitness tests against practicality, suitability and ethical guidelines.
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| **Checklist of evidence required**  | * A presentation justifying the selection of six fitness tests for your client/s
* Practical delivery of a fitness testing session supported by observation and video evidence
* Accurate record of the results from each of the six tests carried out
* A written report that interprets the results and evaluates the test administration.
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| **Criteria covered by this task:** |
| Unit/Criteria reference | To achieve the criteria you must show that you are able to: |
| 5/B.P3 | Select six valid fitness tests for selected sports performers. |
| 5/B.M2 | Assess practicality and suitability of each selected fitness test for selected sports performers. |
| 5/B.P4 | Safely administer and accurately record the results of six fitness tests for a sports performer. |
| 5/B.M3 | Administer six fitness tests, demonstrating skills to ensure the test results are accurate and reliable. |
| 5/B.P5 | Interpret fitness test results against normative data. |
| 5/B.M4 | Suggest areas for improvement in the administration process of fitness tests based on test results. |
| 5/AB.D1 | Analyse own administration of selected fitness tests against practicality, suitability and ethical guidelines justifying suggestions for improvement. |
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| **Sources of information to support you with this Assignment** | Books American College of Sports Medicine – *ACSM’s Guidelines for Exercise Testing and Prescription, 7th edition* (Lippincott Williams and Wilkins, 2005) ISBN 9780781745901American College of Sports Medicine – *ACSM’s Health-Related Physical Fitness Assessment Manual* (Lippincott Williams and Wilkins, 2007) ISBN 9780781775496Coulson M – *The Fitness Instructor’s Handbook: A Complete Guide to Health and Fitness – Fitness Professionals* (A&C Black, 2007) ISBN 9780713682250Franks B D and Howley E T – *Fitness Leader’s Handbook* (Human Kinetics Europe, 1998) ISBN 9780880116541Hazeldine R – *Fitness for Sport* (The Crowood Press, 2000) ISBN 9781861263360Heyward V H – *Advanced Fitness Assessment and Exercise Prescription* (Human Kinetics, 2006) ISBN 9780736057325Howley E T and Franks B D – *Health Fitness Instructor’s Handbook* (Human Kinetics Europe, 2003)ISBN 9780736042109Powers S K and Howley E T – *Exercise Physiology: Theory and Application to Fitness and Performance* (McGraw Hill Higher Education, 2006) ISBN 9780071107266Sharkey B J and Gaskill S E – *Fitness and Health* (Human Kinetics, 2006) ISBN 9780736056144 Skinner J – *Exercise Testing and Exercise Prescription for Special Cases: Theoretical and Clinical Applications* (Lippincott Williams and Wilkins, 2005) ISBN 9780781741132Watson A W S – *Physical Fitness and Athletic Performance: A Guide for Students, Athletes and Coaches* (Longman, 1996) ISBN 9780582091108 Websites American College of Sports Medicine [www.acsm.org](http://www.acsm.org) British Association of Sport and Exercise Sciences [www.bases.org.uk](http://www.bases.org.uk) Coachwise [www.1st4sport.com](http://www.1st4sport.com) Human Kinetics [www.humankinetics.com](http://www.humankinetics.com) Sport Science [www.sportsci.org](http://www.sportsci.org) Sports Coach UK [www.sportscoachuk.org](http://www.sportscoachuk.org) Top End Sports [www.topendsports.com](http://www.topendsports.com) |
| **Other assessment materials attached to this Assignment Brief** | Risk assessment to be carried out prior to the practical delivery of the fitness testing session |