**Monitoring Training and Performance in Athletes**

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**Course Description**

The use of athlete and team training and performance monitoring systems has grown due to technology advances. Practitioners who work with athletes and trainees from high school to elite levels in a range of sports use these systems to observe athlete data, including exercise intensity, athletic fitness, and body responses. This courseis a compilation of evidence-based guidelines and best practices of athlete monitoring for practitioners intended to collect, analyze, and interpret data that ultimately result in training adjustments to optimize performance. Students will find guidelines, approaches, and solutions for challenges in athlete monitoring for individual and team sports as well as suggestions for integrating monitoring with practical applications. The use of low-cost and free-access software will be taught and will provide real-world examples and application of the content to assist students in understanding concepts and the cutting-edge, evidence-based research on athlete monitoring.

The taught elements of the course will be delivered in the form of frontal lessons, workshops, and interactive practical sessions in core disciplines within sports sciences and training monitoring, allowing students to shape the course to their particular interest. The list of all contents is detailed below:

**Contents**

**Assessing Athletes?**

- Stress Response to a Training Session

- Adaptation to a Training Program

- Risk of Overreaching, Overtraining, Sickness, and Injury

- Importance of Individualized Monitoring

**Practical Tools for Athlete Monitoring**

- Basic Statistical Tools

- Meaningful Change

- Presentation of Results

- Qualitative Analysis

**Quantifying Training Outcomes**

- Monitoring Practices in Sport

- Monitoring Technologies

- Measurement Tools

- External Load

- Internal Load

**Athlete Monitoring Guidelines for Individual and Team Sports**

- Monitoring with Training Diaries

- Reporting Training Cycles Monitoring individual athletes and teams

- Modifying Training Based on Monitoring

**Evaluation**

The final evaluation and related grade will be assigned following a three-parts exam combining both questionnaire/multi-choice questions and practical assignments