TEACHING PLAN

1. IDENTIFICATION

Course: Advanced Research Methods in Biodynamics of Human Performance
Code: DEF 510003
Number of Credits: 03 Theoretical Credits
Workload: 45 Hours/Class
Level: PhD students in Physical Education
Professors: Juliano Dal Pupo, PhD
Chris Bishop, PhD

2. SYLLABUS

Strength and power training; The stretch-shortening cycle muscle function; Periodization for sport; Inter-limb asymmetry; Assessment of physical performance and data analysis.

3. OBJECTIVES

To discuss and deepen knowledge related to: the application of strength and power training in athlete populations, the importance of the SSC and how to programme appropriately, periodization and its applicability across multiple sports, the relevance of inter-limb asymmetry in sport, and the importance of how to conduct fitness testing appropriately and use such information to guide decision-making in practice.

4. CONTENT

i) Importance and characteristics of strength and power training, with example of programmes;
ii) Characterization and importance of the stretch-shortening cycle muscle function in sports performance - with methods of assessment and exercise sequencing examples.
iii) Periodization for sport, with examples provided for different sports;
iv) Inter-limb asymmetry: Calculations, test protocols, associations with performance/injury risk and effects of training interventions
v) Assessment of physical performance and data analysis (group vs. individual data analysis techniques)

5. TEACHING STRATEGIES

Expositive-dialogued classes (English), practical class, review of classical literature in each field and critical analysis of recent scientific papers, individual studies and seminars.
6. ASSESSMENT

Individual studies.

7. SCHEDULE OF CLASSES

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<tbody>
<tr>
<td>August 29</td>
<td>09h - 12h</td>
<td>Classroom 112 (PPGEF)</td>
<td>Chris Bishop</td>
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<td>August 30</td>
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<td>14h - 18h</td>
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<td>Juliano Dal Pupo</td>
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<td>09h - 12h</td>
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<td>Chris Bishop</td>
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<td>Juliano Dal Pupo</td>
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<td>September 02</td>
<td>08h - 13h</td>
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<td>Chris Bishop</td>
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* 20 class/hours will be dedicated to the final work (asynchronous class).

8. MAIN REFERENCES


