Testing and Benchmarking

Curriculum Document
October 2024

Course description

The Continuous Professional Development (CPD) course provides a comprehensive understanding of the importance of Testing and Benchmarking in Triathlon. Participants will learn various testing protocols and tools for measuring and improving swimming, cycling, running, and strength performance. Through data analysis and interpretation, attendees will assess the training program's efficacy and develop strategies for improvement.

Introduction

Triathlon is a demanding sport that requires a high level of physical fitness. Athletes who participate in triathlons need to be in peak physical condition to perform at their best. Testing and benchmarking are crucial aspects of training for triathlons, as they provide athletes with valuable information on their progress and help them identify areas of improvement.

Overview

This course offers a comprehensive insight into the significance of testing and benchmarking in triathlon. It will explore different testing protocols, focusing primarily on indirect testing and the tools used to evaluate and enhance an athlete's performance in swimming, cycling, and running, as well as strength and body composition. Participants will learn how to use testing, benchmarking, and data analysis to evaluate the effectiveness of their training programs, set specific and achievable training and racing goals, and identify athletes' strengths and weaknesses.

Throughout the course, you will engage in a combination of lectures, practical exercises, videos, case studies, and group discussions. Our facilitators and experts in the field will guide you through evidence-based principles and practical applications.

Learning outcomes

This course provides essential and valuable practical sports science information in Testing and Benchmarking. The course content offers coaches working with triathletes with scientific-based information necessary to test athletes safely, interpret the data obtained and apply it to their programs to maximise performance. Furthermore, the course aims to improve participants' knowledge of key aspects relevant to rest and recovery and promote safe participation in triathlon.

At the end of the course, attendees:
- Will be able to follow testing and benchmarking protocols within Triathlon effectively.
- Will be able to apply the correct protocol for a given situation.
- Will be able to interpret the data from a test that is carried and make suggestions based on this.
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Content

The course will be divided into several modules, covering different aspects of testing and benchmarking in triathlon. These modules will cover the following topics:

The importance of testing and benchmarking in triathlon:
In this section, the importance of testing regularly is discussed, enabling athletes and coaches to track their development and pinpoint areas for improvement in order to enhance overall performance.

Fundamental tests (flexibility, robustness, strength):
This chapter includes various fundamental tests designed to find imbalances or deficiencies that, if left untreated, might result in injuries or negatively impact an athlete's performance.

Tools for testing and benchmarking
This book will cover utilising advanced technology, such as power meters, heart rate monitors, and motion analysis tools, to ensure precision in performance assessments.

Data analysis and interpretation
Proper data analysis provides insights into an athlete's physiological characteristics, allowing for more informed decisions about training modifications. This section covers the key metrics that coaches and athletes should consider following testing.

Physiological profiles
Determining an athlete's physiological profile offers an in-depth understanding of their capacities, such as VO2 max, muscular endurance, and aerobic threshold.

Supporting Resources

The content is supported by the [World Triathlon Education & Knowledge Hub](#), which contains different information required to establish a successful training program. With all the content provided, coaches should be able to develop their coaching knowledge and skills and design a tailored training program for their athletes.

For more details, please contact World Triathlon Development at development@triathlon.org.

Keynote Speakers

Project lead: Vicent Beltran (ESP), World Triathlon Coach Facilitator

Vicent Beltrán is an experienced endurance sports coach. He holds a degree in Physical Education and Sports Science and has extensive experience in the field of high-performance sports. He is a World Triathlon Coach Facilitator and leads many initiatives for World Triathlon Development.

Irina Zelenkova, PhD, Sport Physiologist

MD,PhD,IOC Diploma Sport physician
She has over 10 years of experience in professional sports, specialising in comprehensive athlete and team preparation for elite-level competitions, including World Championships, World Cup Stages, and the Olympic Games. Her work focuses on enhancing athletic performance through innovative technologies, ensuring compliance with anti-doping regulations. Irina is also skilled in management, working within multidisciplinary teams, and integrating IT solutions. She excels in multitasking, decision-making, and prioritization. Additionally, she is available for lectures and master classes on sports medicine, advanced recovery and training techniques, and physiology.

Fabio Rastelli (ITA), High Performance coach
Fabio Rastelli is a highly accomplished professional triathlon coach with a strong background in sports science. Holding a Ph.D. in Motor and Sports Science and extensive research experience in Exercise Physiology, he has dedicated his career to coaching elite and age-group athletes. As the coach of the Turbo Tri Tribe, Fabio has guided top international athletes to prestigious achievements, including Léo Bergere's Olympic Bronze at Paris 2024. With a rich coaching history that spans various sports and collaboration with national teams, he is also deeply involved in mentoring young coaches and advancing training methodologies in triathlon.

Tyler Smith (BER), Paris 2024 Olympian, Team World Triathlon Member

Tyler Smith is a Bermudian triathlete who has represented his country in major international events. He competed in the 2014 Youth Olympics and was the youngest member of Bermuda's team at the 2018 Commonwealth Games. In 2022, despite injuries, he placed 13th individually and helped Bermuda finish seventh in the mixed relay at the Commonwealth Games. In 2023, Tyler earned top finishes, including ninth at the Americas Triathlon Championships and seventh at the Pan American Games. In 2024, after strong performances in Miami and La Paz. He competed at the Paris Olympic Games 2024.

Matthew Wright (BAR), Paris 2024 Olympian, Team World Triathlon Member

Matthew Wright is a professional triathlete from Barbados who has competed internationally, representing his country in numerous prestigious events. Born and raised in Barbados, he has established himself as one of the top triathletes from the region, known for his strong performances in both sprint and Olympic-distance triathlons. Throughout his career, Matthew has competed in World Triathlon events, Pan American Games, and Commonwealth Games, consistently showcasing his talent on the global stage while proudly representing Barbados. He represented Barbados at the 2024 Paris Olympic Games.

Dates

Registration period: from 7 to 31 October, 2024
Course activities: starting from 4 November, 2024
Key webinars: 7, 14, 21 and 28 November, 2024
Time: 2:00 pm CET
Languages available: The course content is presented in English, with autotranslation via Google Translation. There will be live translation into French and Spanish during the webinars.

Schedule

Registration opens	7 October 2024	
Registration Deadline	31 October 2024	
Course activities	Starting from 4 November 2024	
Session dates and times		**English (with Spanish & French Translations)**
Webinar 1	7 November 2024	2:00 pm CET
Topic	**Sport Science, lab and field testing.** *Keynote speaker: Irina Zelenkova, PhD*	
Webinar 2	14 November 2024	2:00 pm CET
Topic	**Applied Physiology. The Road to the Olympic Medals.** *Keynote speaker: Fabio Rastelli (ITA)*	
Webinar 3	21 November 2024	2:00 pm CET
Topic	**Data analysis and data interpretation.** *Keynote Speaker: Vicent Beltran (ESP)*	
Webinar 4	28 November 2024	2:00 pm CET
Topic & Round table	**Understanding the specific physiological demands of the competition.** *Tyler Smith (BER) - Paris 2024 Olympian, Team World Triathlon Member* *Matthew Wright (BAR) - Paris 2024 Olympian, Team World Triathlon Member*	

Target Audience

This course's intended audience includes triathletes of varying skill levels, coaches, trainers, sports scientists, and individuals involved in sports development, fitness, and wellness programs.

Registration Process

- World Triathlon Certified Coaches can self-enrol in the course through the Education & Knowledge HUB.
- Individuals without World Triathlon coaching certification are also welcome. First, they need to create a new account on the platform and then self-enrol in the course.

Requirements

World Triathlon will provide attendance certificates to course participants who:
- read all the content on the Education & Knowledge HUB, and
- successfully complete checking of knowledge tasks or activities.