Outlook on future of CECS digitalisation

High Performance Conference
Vienna, March 12th 2017
IAAF CECS Long-Term Goals

- to ensure that each country has sufficient competent coaches, qualified according to international standards,
- to enable its athletics programmes to function as effectively as possible,
- to ensure that each region, and in turn, each country, is eventually capable of educating its own coaches to the same international standards without dependence on outside resources.

3 Level CECS Structure was approved by Council 8.2015
# IAAF CECS Structure (3 Levels)

<table>
<thead>
<tr>
<th>NEW 2016</th>
<th>Title</th>
<th>Objective</th>
<th>Key Competences</th>
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<tbody>
<tr>
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<td>Academy Coach</td>
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<td>Performance Managing</td>
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<td>III</td>
<td>Senior Coach</td>
<td>Performance Coaching Skills</td>
<td>Coaching Elite</td>
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<td>Event Group</td>
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<td>II</td>
<td>Coach U 20</td>
<td>Intermediate Coaching Skills</td>
<td>Technic</td>
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<td>Planning</td>
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<td>I</td>
<td>Youth Coach U 16</td>
<td>Basic Coaching Skills</td>
<td>Technic / Teaching</td>
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<td></td>
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<td>ALL Events</td>
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<td></td>
<td>Kids' Athletics Activator</td>
<td>Orientation to athletics</td>
<td>Motivate</td>
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<td></td>
<td>6 - 12 years</td>
<td>Organise</td>
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<td>IAAF CECS (OLD)</td>
<td>IAAF CECS (NEW 2016)</td>
<td>DURATION (days)</td>
<td>DURATION (days)</td>
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- 46%
IAAF CECS Level I
• Able to teach / coach all (16) events.
• Target: basic training for youth categories U16.

IAAF CECS Level II
• Able to coach the (5) Event Group Specialisation: SH; Throws; Jumps; MLD & RW; CE
• Target: build up training for U 20.

IAAF CECS Level III
• Able to coach the (5) Event Group Elite: SH; Throws; Jumps; MLD & RW; CE
• Target: High Level performance.
I  General Aspects of Athletics Training
   1  Major Types of Motor Stress
      1.1 Coordination
      1.2 Flexibility
      1.3 Strength
      1.4 Speed
      1.5 Endurance
   2  Adaptation and Performance Capacity
      2.1 Training and Load Organisation
      2.2 Super-compensation and Overtraining
      2.3 Overtraining Syndrome
      2.4 Hierarchy and Brain Plasticity
      2.5 The Brain as a Factor Limiting Performance
   3  Training Control
      3.1 Target Analysis
         3.1.1 Age or Training Levels and School Sport
         3.1.2 Factors Which Determine Performance
         3.1.3 General Conditions
      3.2 Analysis of the Current Situation, and Test and Control Procedures
      3.3 Training Planning
         3.3.1 Goal Setting
         3.3.2 Periodisation Phases
         3.3.3 Periodisation Models
         3.3.4 Sample Training Plans for Children’s Athletics and Basic Training
      3.4 Performance and Documentation of Training
   4  Training Methods
      4.1 Coordination Training
      4.2 Flexibility Training
      4.3 Strength Training
      4.4 Speed Training
      4.5 Endurance Training
General Aspects of Athletics Training

5 General Training Contents
5.1 Preparing for Exercise
5.2 Coordination: Forms of Games and Exercises
  5.2.1 Games and Skill Exercises
  5.2.2 Gymnastics and Climbing
5.3 Flexibility: Forms of Exercises
5.4 Strength: Forms of Games and Exercises
  5.4.1 Playful Strength Training in Children’s Training and Basic Training
  5.4.2 Strength Exercises Using One’s Own Body Weight
  5.4.3 Training with the Barbell or Dumbbell
  5.4.4 Machine-supported Strength Training
  5.4.5 Strength Training Against Partner Resistance
  5.4.6 Forms of Jumping
  5.4.7 Throws
5.5 Following up on Exercise

6 Bibliography – Part I
II Event-specific Aspects of Athletics
  1 Running
  1.1 Common Features and Comparison of Running Disciplines
  1.2 Sprint: Common Features and Comparison of Disciplines
  1.3 100m Race
  1.4 200m Race
  1.5 400m Race
  1.6 4 x 100 m
  1.7 4 x 400 m
  1.8 100 and 100m Hurdles
  1.9 400m Hurdles
  1.10 Middle- and Long-Distance Running: Common Features of the Disciplines
  1.11 800 and 1500 m
  1.12 3000m Steeplechase
  1.13 5000 m, 10,000 m, Marathon
  1.14 Race Walking: 20 and 50 km
  2 Jumping
  2.1 Common Features and a Comparison of the Disciplines
  2.2 Long Jump
  2.3 Triple Jump
  2.4 High Jump
  2.5 Pole Vault
  3 Throwing
  3.1 Common Features and Comparison of Throwing Disciplines
  3.2 Javelin Throw
  3.3 Discus Throw
  3.4 Shot Put
  3.5 Hammer Throw
  4 Combined Events

Index
“Knowledge of a technical model based on high-performance sport (variations included) is important when training with young athletes.”

Strüder H.K. et al: Leichtathletik 2016 p.57

E - Book: Photo Sequences (26)

Hyperlink to VIDEO LIBRARY

e.g. Water Jump Technique

- 2015 WYC (YOUTH)
- 2015 WC (SENIOR)
“Errors and their detection are always individual. Nevertheless, some errors can be identified which are particularly common or important for beginners.”


E book:
Errors – Causes – Corrections (21)

<table>
<thead>
<tr>
<th>#</th>
<th>Errors</th>
<th>Causes</th>
<th>Corrections</th>
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</thead>
</table>
| 1 | Too low hips in the “set” position (e.g. at shoulder height). | ► The athlete is looking toward the finish with his/her head thrown back.  
► Athlete makes insufficient effort to raise his/her CG, since he/she has not yet experienced the benefits thereof. | √ The athlete should look between his/her hands.  
√ Repeated lifting of the hips into the “set” position and back (126).  
√ Experimenting with different “set” positions. |
| 2 | In the “set” position, the athlete’s shoulders and CG are too far back or the support of his/her hands is not high enough. | ► Lack of strength in the fingers, arms, and shoulders.  
► Athlete makes insufficient effort to achieve a high and forward shifted CG position, since he/she has not yet experienced the benefits thereof. | √ Appropriate strength games and exercises: 31, 32, 35–38, and 53.  
√ Repeated lifting of the hips into the “set” position and back (126).  
√ Experimenting with different “set” positions. |
| 3 | Otherwise inappropriate “set” position. | ► Inappropriate block setting.  
► Inappropriate narrow or wide positioning of the hands. | √ Front block approximately 1½ feet away from the finish line, approximately 50° to the ground; rear block approximately 1–1½ feet further back, approximately 70° to the ground.  
√ Hands only slightly further apart than shoulder width. |
1.3  **100m Race**

1.3.1 Double Word Records
1.3.2 The Most Important Competition Rules
1.3.3 Sport-Science Findings, Phase Structure and Technique
1.3.4 Summary of the Most Important Technical Characteristics = Technique-Analysis Sheet
1.3.5 Photo Sequences
1.3.6 Strategy
1.3.7 Didactics: Superordinate Long-term Objectives and General Methodology
1.3.8 Training Contents: Forms of Games and Exercises
1.3.9 Special Test and Control Procedures

**1.3.10  Errors – Causes – Corrections**

1.3.11  Training Planning
1.3.12  Bibliography
• 100m; 200m; 400m
• 4 x 100m; 4 x 400m
• 100 / 110m Hurdles; 400 Hurdles

• MLD; 800 & 1500m; 3000 Steeple; 5km & 10km & Marathon;
• RW (20km & 50km)

• Long Jump; Triple Jump; High Jump; Pole Vault

• Javelin; Discus; Shot put; Hammer

• Combined Events
“Coaches’ Eye”

Technical analysis and fault finding as an internet application for coaching high jump

By Christina Hunneshagen

Coaches’ Eye: Ability to

• Analyse Technic & identify “faults” based on “technical model”
• Know / understand the cause of the technical “fault”
• Select an appropriate correction
E Book
Multiple interactive Hyperlinks – Coaches Eye

I. Technical analysis - simple

II. Technical analysis - intermediate

III. Technical analysis - difficult

IV. Fault finding - Beginners

V. Fault finding - Advanced athletes
1.) Sprints (100m & 400m)
2.) Crouch start (100m & 110/100m Hu)
3.) Hurdles (110/100 & 400m)
4.) Relays (4 x 100m & 4 x 400m)
5.) MLD
6.) Steeple chase Step On (2)
7.) Steeple chase Clearance (2)
8.) RW
9.) High jump
10.) Long jump (sail, hang, hitch kick)
11.) Triple jump
12.) Pole vault
13.) Shot put (linear)
14.) Shot put (rotational)
15.) Javelin
16.) Discus
17.) Hammer
IAAF Coaches’ Eye

https://coaches-eye.com//CE

https://coaches-eye.com/ce/index2.php
The IAAF Teaching Guide for Technique and Fault Finding

Course categories

- Sprints & Hurdles (4)
- Middle/Long distance (3)
- Jumps (4)
- Throws (5)
High Jump

Practice
- Technical basic
- Technical intermediate
- Technical advanced
- Fault finding basic
- Fault Finding advanced

Exam
- Technical basic
- Technical intermediate
- Technical advanced
- Fault finding basic
- Fault finding advanced
Coaches' Eye

- Run-up too short
- Poor bar clearance
- Missing curve
- Take off too far

Submit
Your answer: Poor bar clearance

Correct

Continue
1.3 100m Race

1.3.1 Double Word Records
1.3.2 The Most Important Competition Rules
1.3.3 Sport-Science Findings, Phase Structure and Technique
1.3.4 Summary of the Most Important Technical Characteristics = Technique-Analysis Sheet
1.3.5 Photo Sequences
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1.3.7 Didactics: Superordinate Long-term Objectives and General Methodology
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1.3.9 Special Test and Control Procedures
1.3.10 Errors – Causes – Corrections
1.3.11 Training Planning
1.3.12 Bibliography
• 100m; 200m; 400m
• 4 x 100m; 4 x 400m
• 100 / 110m Hurdles; 400 Hurdles

• 800 & 1500m; 3000 Steeple; 5km & 10km & Marathon;
• RW (20km & 50km)

• Long Jump; Triple Jump; High Jump; Pole Vault

• Javelin; Discus; Shot put; Hammer

• Combined Events
### Build-up training: sample microcycle for a 17 years old athlete in the 2nd mesocycle

<table>
<thead>
<tr>
<th>Monday</th>
<th>Tuesday</th>
<th>Wednesday</th>
<th>Thursday</th>
<th>Friday</th>
<th>Saturday</th>
<th>Sunday</th>
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<tbody>
<tr>
<td>Trunk stabilisation exercises and abdominal crunches (20 min) with a lot of dynamic variation</td>
<td>Foot strengthening (10 min)</td>
<td>Baton handovers (25 min) while sitting/standing, jogging, and sprinting at submaximal speed</td>
<td>Continuous run (30 min)</td>
<td>UI runs (6 x 80 m, rest intervals: 20 sec)</td>
<td>Baton handovers (25 min) while sitting/standing, jogging, and sprinting at submaximal speed</td>
<td>Rest</td>
</tr>
<tr>
<td>Baton handovers (3 run-throughs) at submaximal sprinting speed</td>
<td>Acceleration runs (3 reps) barefoot</td>
<td>Training hurdling technique (30 min)</td>
<td>Contract-relax stretching (15 min)</td>
<td>ABCs of jumping (8–10 run-throughs)</td>
<td>ABCs of sprinting (15–20 run-throughs)</td>
<td>On Saturdays before the tempo runs possibly also training the technique of one event of the quadrathlon or pentathlon</td>
</tr>
<tr>
<td>ABCs of sprinting (10–15 run-throughs) emphasis: grasping/pulling</td>
<td>ABCs of jumping (10–15 run-throughs) e.g. galloping sideways, ankle jumps, skipping with two-legged landing, skipping variations, etc.</td>
<td>ABCs of jumping (15–20 run-throughs)</td>
<td>Practising the long-jump technique (40 min) medium run-up lengths, take-offs from the left and right leg, additional tasks: e.g. development of the running-in-the-air technique of long jumping</td>
<td>I3 tempo runs (100, 150, 200, 180, 120, and 80 m; rest intervals: 3, 5, 7, 6, and 4 min)</td>
<td>Acceleration runs (2 reps)</td>
<td></td>
</tr>
<tr>
<td>Technique sprints (4–6 reps) e.g. sprints with additional tasks such as varied arm actions, alternating-pace sprints, with pre-set stride lengths, etc.</td>
<td>Bounding runs and/or rhythm jumps (6–8 run-throughs)</td>
<td>I2 tempo runs (2 x 3 x 60 m); rest intervals: 2–3 min; intervals between sets: 10 min</td>
<td>Strength training (40 min) according to the pyramid principle: clean and snatch (the coach must continue to supervise the technique attentively)</td>
<td>Warm-down jogging (10 diagonals on the lawn)</td>
<td>I3 tempo runs</td>
<td></td>
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<tr>
<td>Exchange training (30 min) as maximum sprinting-speed training; each athlete receives and passes the baton 3 times</td>
<td>Strength training (30 min) according to the pyramid principle: clean and snatch</td>
<td>Strength training (40 min) according to the pyramid principle or maximal-eccentrically: hamstrings, quadriceps, adductors, hip flexors and extensors</td>
<td>Tappings (8 x 5 sec) or frequency coordination (10 min), e.g. over foam blocks</td>
<td>Foot strengthening (10 min) in the sand</td>
<td>Contract-relax stretching (15 min)</td>
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<tr>
<td>Game (20 min) e.g. basketball or handball</td>
<td>Game</td>
<td>Tappings (8 x 5 sec) or frequency coordination (10 min), e.g. over foam blocks</td>
<td>Foot strengthening (10 min) in the sand</td>
<td>Relay races around turning marks (with handovers from behind)</td>
<td>Relay starts (3 x 30 m) against each other</td>
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The “PUZZLE” – a teaching aid for training session and microcycle planning

By Günter Lange
E Book
Multiple interactive Hyperlinks – Planning
Microcycle Puzzle

Biomotor Ability & Means & Method & Intensity / Volume / Recovery
## MICRO CYCLE TRAINING PLAN

<table>
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<tr>
<th>M/F: Event:</th>
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### ACTUAL LEVEL OF

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<th>Strength</th>
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<th>Mesocycle:</th>
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<th>Σkg</th>
<th>Σkm</th>
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### MICRO CYCLE TRAINING PLAN

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**Notes:**
- **DAY 1:** Focus on developing neural connections and initiating the microcycle.
- **DAY 2:** Introduce structural exercises to build foundational strength.
- **DAY 3:** Transition into mental focus and preparatory phase.
- **DAY 4:** Continue with mental and structural exercises.
- **DAY 5:** Focus on neural and structural enhancements for recovery.
- **DAY 6:** Maintain mental and neural well-being.
- **DAY 7:** Preparation for the final phase.
- **DAY 8:** Finishing mental and structural training.
- **DAY 9:** Consolidation and recovery phase.
1.3 **100m Race**

1.3.1 Double Word Records
1.3.2 The Most Important Competition Rules
1.3.3 Sport-Science Findings, Phase Structure and Technique
1.3.4 Summary of the Most Important Technical Characteristics = Technique-Analysis Sheet
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1.3.11 Training Planning
1.3.12 **Bibliography**
I General Aspects of Athletics Training
6 Part I

II Event-specific Aspects of Athletics
1.2.3 Running
1.3.12 100m Race
1.4.12 200m Race
1.5.12 400m Race
1.6.12 4 x 100 m
1.8.12 100 and 100m Hurdles
1.9.12 400m Hurdles
1.10.9 Middle- and Long-Distance Running
1.11.12 800 and 1500 m
1.12.12 3000m Steeplechase
1.13.12 5000 m, 10,000 m, Marathon
1.14.12 Race Walking: 20 and 50 km
2.1.5 Jumping
2.2.11 Long Jump
2.3.11 Triple Jump
2.4.12 High Jump
2.5.11 Pole Vault

3.1.4 Throwing
3.2.11 Javelin Throw
3.3.11 Discus Throw
3.4.11 Shot Put
3.5.11 Hammer Throw

4.1.12 Combined Events
II Event-specific Aspects of Athletics
1.2.3 Running

1.2.3 Literatur zum Kapitel


https://www.bisp-surf.de/
The contemporary take-off
von Nikolov, I.
Veröffentlicht in Modern athlete and coach, 24 (1986), 2, S. 9-11

2. The contemporary take-off
von Nikolov, I.
Veröffentlicht in Track technique, (1987), 98, S. 3124-3125

3. Arms in the triple jump take-off

Zusammenfassung in Relevanz
Zu den Favoriten
Integriert in
In Zeitschrift suchen

Bibliography SURF

E Book
Multiple interactive Hyperlinks
- Bibliography SURF
Mechanics of the pole vault take-off

Title: Mechanics of the pole vault take-off
Deutscher Übersetzer: Mechanik des Stabhochsprung-Absprungs
Author: McGinnis, Peter M.
Zeitschriftenartikel: IAAF new studies in athletics : NSA
Format: Zeitschriftenartikel
Sprache: Englisch
Veröffentlichung: 12 (1997), Heft 1, S. 43-46
Schlagworte: Absprung; Biomechanik; Leichtathletik; Sprungdisziplinen; Stabhochsprung; Technik, sportliche;
Erfassungsnummer: PUI9991042525
Quelle: BISp

Abstract des Autors

The rationale for certain actions occurring prior to, during, and immediately after the take-off phase of the pole vault are examined theoretically and then empirically. Actions which are desirable, as indicated by the theory and research, are then presented. Verf.-Referat
E Book
Multiple interactive Hyperlinks
- Blended Learning (10)

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E Book 915 pages
100 interactive Hyperlinks

915p. Ebook

- 26 Video Library
- 20 Coaches' Eye
- 20 MC Puzzle
- 24 Documents Library
- 10 Propaedeuticum
ATHLETE CENTERED SCIENCE BASED COACH DRIVEN