A Philosophy To Coaching Horizontal Jumps

Aston Moore

Where Did it All Begin?

- As a Competitor
  - European Junior Champion – 1975
  - Olympic Games - 1976
  - European Indoor Senior Bronze Medallist -1981
  - Commonwealth Games Bronze Medallist – 1978/82
- As a Coach
  - Began coaching while still an athlete
  - Junior National Coach – 1992
  - National Coach – 1998
  - Professional Coach with British Athletics – 2000/Present

Where Did it All Begin?

- Athletes I have worked with and learnt from:
  - Eric McCalla
  - Ashia Hansen (British Record Holder)
  - Tiombé Hurd – American Record Holder (2004-2016)
  - Kelly Sotherton
  - Phillips Idowu
  - Nathan Douglas
  - Jonathan Moore
  - Stef Reid
  - In between – lots of British Internationals in both Long and Triple Jump

What Doesn't Kill Me Makes Me Grow Stronger!

- Events as an athlete and a coach that has helped to form my coaching philosophy
  - My Olympic Experience
  - Trying to train like the Soviet Union athletes
  - Discovering and implementing the ideas around "Periodisation"
  - Working with young athletes
  - Working with mature athletes

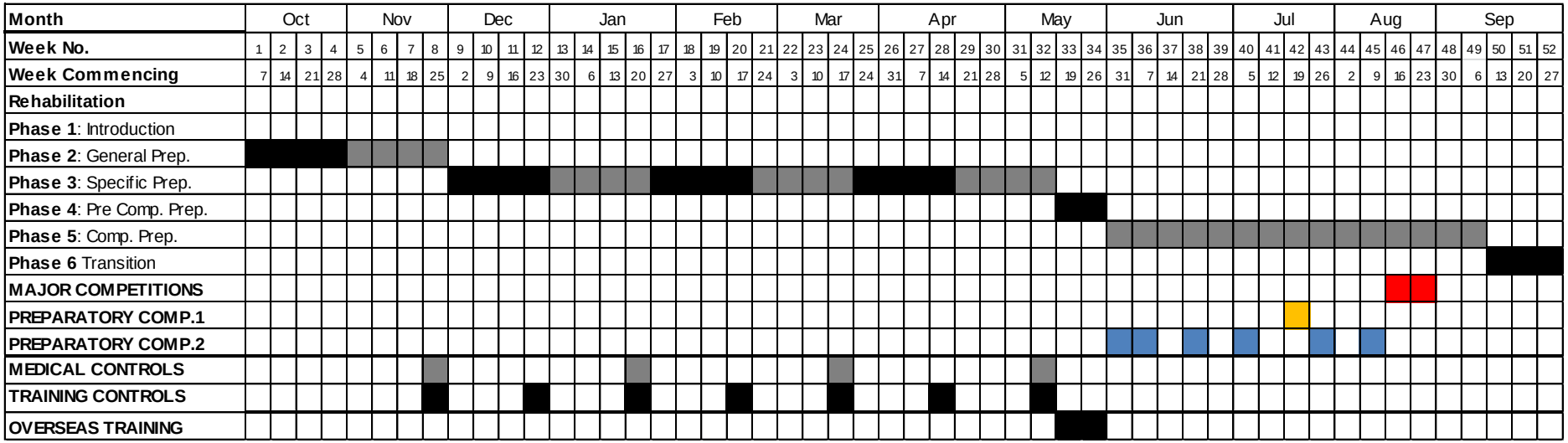
- You are about to get "exactly" what I do to prepare the athletes I work with
  - There are no secrets
  - By the end of this the only difference between me and you, is what I see, and what I do about what I see **(experience)**

That Which is Planned, Gets Done

- The whole of my philosophy hinges on this single most important truism
  - Things that are planned and **written down**, tend to get done
  - Failing to plan, is planning to fail!
    - Planning brings focus and clarity to training process
    - Your training plan is the path you travel toward success
  - You can get lost without your training plan
    - I never arrive at the competition phase of training not knowing what to expect from an athlete

That Which is Planned, Gets Done

This is how I do it



- This is an overview of the year's training. At a glance, I can see:
  - Where each phase begins and ends
  - The length of each training cycle
  - Where my minor competitions are in relation to the major one
  - Where my training and medical controls are
  - When to organise WWT

- Variations on that theme
  - Length of cycles

That Which is Planned, Gets Done

That's the bones, now for the meat:

- I see the organisation of training in 3 broad areas
  - What I call your "Elements"
  - The jumper has to be Fast , Strong and Technically efficient

SPEED	STRENGTH	TECHNIQUE

- Each of these "elements" are made up of what I call "trace-elements"

That Which is Planned, Gets Done

- Trace-Elements
  - Are the sub-divisions of an element

SPEED	STRENGTH	TECHNIQUE
Alactic Capacity	General Strength	General Drills
Alactic Endurance	Maximum Strength	Specific Drills
Alactic Power	Explosive Strength	Comp Specific Drills

- Each Trace-elements are made up of what I call "Training Components"

That Which is Planned, Gets Done

Training Components – Speed

- Are the actual types of sessions that fits under that specific heading

Element	SPEED		
Trace Element	Anaerobic		
	Alactic Capacity	Alactic Endurance	Alactic Peak Power
Components	150-250m runs @ 85–90% intensity	40-120m Limited Recovery Runs (ratio 1:6) @ all-out effort 120-200m runs @ 90–95% intensity 40m differential over 120-200m @ all-out effort 50m differential over 150m	15-30m runs @ 100% intensity 30-60m runs @ 100% intensity Flying 20-40m sprints @ 100% intensity Run up work 20-40m Over speed work/Assistance work 20-40m Resistance Runs @ 95-100% intensity

That Which is Planned, Gets Done

- Training Components – Speed (How I view things now)

Element	SPEED		
Trace Element	Anaerobic		
	Force Production	Capacity / Endurance	High Velocity
Components	30-40m Sled Runs (Heavy)	40-80m Limited Recovery Runs (ratio 1:6) @ all-out effort	Agility Drills
	30-60m Sled Runs (Medium)	120-200m runs @ 85–90% intensity	15-30m runs @ 100% intensity
	30-50m Sled Runs (Light)	120-150m runs @ 90–95% intensity	30-60m runs @ 100% intensity
	30-40m Sled Runs (complex)	40m differential over 120m @ all-out effort	Flying 20-40m sprints @ 100% intensity
		50m differential over 150m@ all-out effort	Run up work
			20-40m Over speed work/Assistance work

All 3 trace-elements are scheduled each week and each cycle

– They are grouped together into 9 distinct training cycles or processes

That Which is Planned, Gets Done

TRACE ELEMENTS FOR SPEED				
	Intensity	Duration	Method	Recovery
Anaerobic Alactic Capacity	85-90%	15 – 30 sec	Repetition	1:6
Anaerobic Alactic Endurance	90-95%	5 – 20 sec	Repetition	1:6
Anaerobic Alactic Peak Power	95-100%	3 – 7 sec	Repetition	4-6 minutes

That Which is Planned, Gets Done

Training Components – Strength (Resistance Method)

Maximum Strength	Dynamic Strength	Explosive Strength (Complex/Contrast)
Power Cleans *Power Snatch* Full Squats Half Squats Single Leg Squats Step Ups **5x5x85%, 6x3x90%, Pyramid** *Quadriceps* *Calf Raises* *Hamstring* (various) **3-4x6-10x80-85%**	**Continuous: 3-5x6-8x20-30%** Jump Squats Step Up Jumps Split Jumps **With Pause: 3-5x6-8x30-70%** Jump Squats Step Up Jumps Split Jumps	**Continuous: 3-5x6-8x20-30%** Jump Squats Step Up Jumps Split Jumps With 6-8 Bounds for distance Half Squats: **2(2x2x90%)** With Depth Jumps: **2(3-5x5-8) 60-100cm**

Exercises underlined and in italics are included in all phases

That Which is Planned, Gets Done

Training Components – Strength (Plyometric Method)

- In my world Plyometric Training falls within the remit of the strength element

Side Skips
High Skips
Standing Long Jump
Sideway hopping - over cones
Repeated splits jumps in place
Standing Triple Jump
Tuck Jumps – Double footed
Reactive Rebounds
Bunny jumping
Tuck Jumps – Single footed
Hopping, 8 -10 contacts (On soft surface)
Stepping/Bounds, 8 -10 contacts (On soft surface)
Hop / Steps continuous, 10 contacts (On soft surface)
Jack Knife jumps
Standing 4 Steps and a jump
Standing 4 Hops and a jump
Running 3 Steps, jump
Running 3 Hops, jump (Both legs)
Running 5 Steps, jump
Running 5 Hops, jump (Both legs)
Repeated rebound jumps without tuck - in place
Double footed jumps over low/medium/high hurdles (appropriate to ability to do safely)

Single leg jumps over low/medium hurdles (appropriate to ability to do safely)
Power set - 40m, 4 hurdle jumps, 4 bunny jumps, 4 bounds – Sprints (Timed)
Drop jumps - eccentric only
Hop – Stop
Deep Hops or Hop – Stop over 15-20m, immediately into 15m run, followed by long, low hops for 15-20m
Deep Steps or Step - Stop over 15-20m, immediately into 15m run, followed by long, steps for 15-20m
Multiple hops down a gradient
Multiple steps down a gradient
Box Work / Depth Jumping
Multiple 2 footed Box Jumps (Low boxes)
Multiple Single leg Box Jumps (Low boxes)
2 footed - single contact jumps. (50cm-110cm boxes) (Appropriate to ability to do safely)
Hop down from box top, hop forward and then jump into a sand pit. (Appropriate to ability to do safely)
Step down from box top, and then jump into a sand pit. (Appropriate to ability to do safely)
Hop down from box, then 2 steps and jump into pit (appropriate to ability to do safely)
Multiple Steps utilising several boxes to step up to and step down from (appropriate to ability to do safely)
Short approach triple jumping using a low platform at either the hop or step phase.

That Which is Planned, Gets Done

Training Components – Strength

- This is my way of putting together the gym and plyometric strength elements

Training Objectives	General				Specific						
Strength Resist Method					Foundation 3-5x5x75-80%	Maximum Strength 3-5x5x80-90%	Maximum Strength 4-6x3-2x90-95%	Dynamic Strength (consecutive jump squats 20-30%), 2:1	Dynamic Strength Complex (Vertical jump squats 50-70%)	Explosive Strength Complex (Maximum Strength (2) 2-3x90-95%)	Speed Strength 3x4-6x70%
Strength Plyo Method	Singular Maximum Explosive Jumps (Forward &Upwards)	Vertical Jumps (in-place), Jumps Onto Box, Box Jumps (Low/High)	Multiple Consecutive Jumps with Forward Displacement (sub-maximal)	Hop/Stops Sub-maximal Hops and Bounds (40-60m). Hurdle Jumps (spaced),				Maximal Hops and Bounds (30-40m). Hurdle Jumps (close) 1:2	Explosive Strength Complex (Intensive Bounds 20-40m)	Explosive Strength Complex (Depth Jumps)	Speed Bounds and Hurdle Jumps (close) (Power Sets)

That Which is Planned, Gets Done

Training Components – Technique (Triple Jump)

Technical Work - Triple Jump		
Hop Take-off and Landing	**Step Take-off and Landing**	**Jump Take-off and Landing**
Gallops	Lower Leg Skips	Lower Leg Skips
Lower Leg Skips	Multiple Steps	Step-Jumps
Multiple Hop	Box to Box Steps Jumps	Step-Jump from Box
Box to Box Hop Jumps		
Triple Jumps (from 5-13 strides)		

That Which is Planned, Gets Done

Training Components – Technique (Long Jump)

Technical Work - Long Jump		
Take-off	Flight	Landing
High/Low Skips	Jumps from box top	Jumps from box top
Gallops (and variations of)		
Hop, Step Take-offs		
Jumps from box top		
Negative Take-offs		
Long Jumps (from 9-15 strides)		

That Which is Planned, Gets Done

DISTRIBUTION OF TRAINING ELEMENTS IN JUMPING			
	SPEED	STRENGTH	TECHNIQUE
Mature Athlete	25%	60%	15%
Junior Athlete	25%	50%	25%
Novice Athlete	30%	35%	35%

- In the overall scheme of things, notice that the Strength Element (for a mature athlete) is apportioned the biggest unit in time and volume
  - Notice also my suggestion of how training elements should be distributed for younger jumpers

That Which is Planned, Gets Done

Armed with your components this how your Overview Plan now looks

Month	Oct				Nov				Dec				Jan					Feb				Mar				Apr					May				Jun					Jul				Aug				Sep				
Week No.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52
Week Commencing	7	14	21	28	4	11	18	25	2	9	16	23	30	6	13	20	27	3	10	17	24	3	10	17	24	31	7	14	21	28	5	12	19	26	31	7	14	21	28	5	12	19	26	2	9	16	23	30	6	13	20	27
Rehabilitation																																																				
Phase 1: Introduction																																																			
Phase 2: General Prep.																																																			
Phase 3: Specific Prep.																																																			
Phase 4: Pre Comp. Prep.																																																			
Phase 5: Comp. Prep.																																																			
Phase 6 Transition																																																			
MAJOR COMPETITIONS																																																			
PREPARATORY COMP.1																																																			
PREPARATORY COMP.2																																																			
MEDICAL CONTROLS																																																			
TRAINING CONTROLS																																																			
OVERSEAS TRAINING																																																			
Speed cycles	1				2				3				4					5				6				7					8				9																	
Strength Cycles	Genaral				General				Max				Max					Max				Dynamic				Dynamic					Explosive				Explo																	
Technical Cycles	Drills				Drills				7-9 strides				9-11 strides					11-13 strides				11-13 strides				13-15 strides					13-15 strides				15-17str																	

- I always know exactly where I am along the preparation process
  - If injury strikes, I can accurately adjust my training plan to reflect that

That Which is Targeted Can Be Hit

- You have a plan, but is that enough?
  - You can turn up to every session, do all the training, yet arrive in the competition phase of the season in no position to achieve your goal!

- **The problem might be that you didn't set a specific and measurable goal**

- Before training begins each year
  - We decide the main competition of the year
    - Regional, Olympics, National Champs, European Champs…

That Which is Targeted Can Be Hit

- What is it going to take to either get to or place in any of these competition?
  - Some athletes think that if they just train harder than they did last year, they will improve
    - If you are going in the wrong direction you are not going to get where you want to be, even if you are driving a Ferrari

- You need to know what success looks like
  - In our game, it is how far do you want to jump. Is it 6m, 8m, 15m or 16m

- The answer to that specific question helps you to make the right decisions about the type of training you will need to do to accomplish your goal.
  - **But is that enough?**

That Which is Targeted Can Be Hit

- Once you decide your performance goal, you then have to decide if it is more strength – speed – better technique that will give you that performance improvement?

- And once you decide that, you have to decide what type of strength – which phase of speed - which part of the technique?
  - **These are what are referred to as "Key Performance Determinants"**

- In the early years I look for the 1 or 2 things that will give me the biggest bang for my buck
  - As performance gains diminishes, I look for small improvements in a number of areas – what I call polishing

- Once you chunk down to those specific details, you will be amazed how much easier it will be to achieve your goal

That Which is Targeted Can Be Hit

- So, we have decided what the target is – each of these targets must have a value if they are to be meaningful
  - How strong, how fast, what is the angle of take-off?
- The problem is, many coaches don't know the specific ingredients which makes a better "jump" cake
  - What does it take to go from A to B
- In jumps, a lot of this work has already been done for us
  - Old Soviet research paper
  - Bio-mechanical studies
  - Eventually, your own experience

That Which is Targeted Can Be Hit

Triple Jump - Men			
Characteristics and Abilities			
Activities	Under 17	Under 20	Seniors
Triple Jump	15.50m-16.00m	16.00m–16.50m	17.20m-18.00m
Long Jump	6.70m-7.10m	7.20m-7.55m	7.80m-8.10m
Height	1.78m – 1.83m	1.80m – 1.85m	1.82m – 188m +
Weight	65-72kg	73-78kg	75-85kg
40m Sprint (standing start)	5.10s – 5.30s	4.80s – 5.00s	4.50s – 4.70s
60m Sprint (standing start)	7.40s	7.10s	6.80s
Standing Long Jump	2.85m-3.00m	3.00m-3.20m	3.25m-3.45m
Half Squats	50kg – 90kg	100kg – 140kg	150kg – 200kg
Power Clean	40kg –60kg	80kg – 90kg	120kg – 140kg

That Which is Targeted Can Be Hit

Long Jump - Men			
Characteristics and Abilities			
Activities	Under 17	Under 20	Seniors
Long Jump	6.90m – 7.40m	7.60m – 8.00m	8.20m – 8.50m
Height	1.78m – 1.83m	1.80m – 1.85m	1.82m – 188m +
Weight	65-72kg	73-78kg	75-80kg
40m Sprint (standing start)	5.00s – 5.20s	4.70s – 4.90s	4.40s – 4.60s
60m Sprint (standing start)	7.10s	6.90s	6.70s
Standing Long Jump	2.85m-3.00m	3.00m-3.20m	3.25m-3.45m
Half Squats	50kg – 90kg	100kg – 140kg	150kg – 200kg
Power Clean	40kg –60kg	80kg – 90kg	120kg – 140kg

That Which is Targeted Can Be Hit

Long Jump - Women	
Characteristics and Abilities	
Activities	Seniors
Long Jump	6.90m – 7.20m
Height	1.72m – 1.80m
Weight	58kg-63kg
40m Sprint (standing start)	4.90s – 5.10s
60m Sprint (standing start)	7.30s
Standing Long Jump	2.85m-3.00m
Half Squats	120kg – 160kg
Power Clean	85kg – 95kg

Triple Jump - Women	
Characteristics and Abilities	
Activities	Seniors
Triple Jump	15.20m-15.50m
Long Jump	6.60m-6.90m
Height	1.72m – 1.82m
Weight	60-65kg
40m Sprint (standing start)	5.10s – 5.20s
60m Sprint (standing start)	7.40s
Standing Long Jump	2.85m-2.90m
Half Squats	120kg – 160kg
Power Clean	85kg –95kg

That Which is Measured & Monitored, Improves

- Measuring training outcomes (periodically) gives me the information I need to make sure that the athlete actually achieve what we set out to do

- There are 3 reasons why this works:
  - Motivation
    - For some people, if they know their performances will be measured, this increases their motivation to perform and they get better
  - Confidence/Belief
    - If we are measuring the right things and we hit the target we set, that adds to the belief that we can expect to hit our competition goals
    - Belief then then adds to positive expectations which can lead to improvements
  - Accountability
    - We have concrete data that shows whether we are on track or not
    - We can take **(early)** steps to correct the training programme and increases the likelihood of achieving our goals

Summary

My Philosophy in a nutshell:

1. Decide what are your performance and process goal(s) are for your training year or cycle
    1. You should expect a 2-3% improvement each year (between the 16-21yrs)

2. Decide what needs to be (specifically) improved to meet your goal in the 3 areas which makes up the athlete training diet

3. **Plan** out how you are going to implement your training strategy through the use of training phases and training cycles

4. Implement your training strategy and regularly monitor where you are in the training process by measuring your **key performance determinants**

QUESTIONS?

Aston Moore
Senior National Performance Institute Coach – Horizontal Jumps
M: +44(0)7718526370

Elite Men	Starting Point	Progression		
Age Band	16yrs	17yrs – 18yrs	19yrs – 20yrs	21yrs – 22yrs
Performance Range	14.50m – 15.00m	15.25m – 15.80m	16.05m – 16.60m	17.30m - 17.50m
Run-way Speeds	N/A	9.4m/s - 9.6m/s	9.6m/s - 9.8m/s	10m/s plus
Leg Strength (Body Weight)	N/A	1 x BW	2 x BW	3 x BW

Inter./Elite Women	Starting Point	Progression		
Age Band	16yrs	17yrs – 18yrs	19yrs – 20yrs	21yrs – 22yrs
Performance Range	12.00m – 12.50m	12.60m – 13.15m	13.25m – 13.85m	13.95m - 14.50m
Run-way Speeds	N/A	8.4m/s - 8.6m/s	8.6m/s - 8.8m/s	9.0m/s - 9.2m/s
Leg Strength (Body Weight)	N/A	1 x BW	2 x BW	3 x BW

Regional/Inter. Men	Starting Point	Progression		
Age Band	16yrs	17yrs – 18yrs	19yrs – 20yrs	21yrs – 22yrs
Performance Range	13.50m – 14.00m	14.20m – 14.70m	14.95m – 15.50m	15.70m - 16.50m
Run-way Speeds	N/A	9.0m/s - 9.2m/s	9.2m/s - 9.5m/s	9.6m/s - 9.8m/s
Leg Strength (Body Weight)	N/A	1 x BW	2 x BW	3 x BW

Elite Athletic Performance

Moving fitness and performance to another level

Stride Pattern	%	TJ Distances (Female)												
Full Approach	100	15.50	15.40	15.20	15.00	14.80	14.60	14.40	14.20	14.00	13.80	13.60	13.40	13.20
15 Strides	97.5	15.11	15.02	14.82	14.63	14.43	14.24	14.04	13.85	13.65	13.46	13.26	13.05	12.87
13 Strides	95	14.73	14.63	14.44	14.25	14.06	13.87	13.68	13.49	13.30	13.11	12.92	12.75	12.54
11 Strides	92.5	14.34	14.25	14.06	13.88	13.69	13.51	13.32	13.14	12.95	12.77	12.58	12.40	12.21
9 Strides	90	13.95	13.86	13.68	13.50	13.32	13.14	12.96	12.78	12.60	12.42	12.24	12.05	11.88
5-7 Strides	87.5	13.56	13.48	13.30	13.13	12.95	12.78	12.60	12.43	12.25	12.08	11.90	11.73	11.55
	85	13.18	13.09	12.92	12.75	12.58	12.41	12.24	12.07	11.90	11.73	11.56	11.40	11.22

Stride Pattern	%	TJ Distances (Male)								
Full Approach	100	18.00	17.80	17.60	17.40	17.20	17.00	16.80	16.60	16.40
15 Strides	97.5	17.55	17.36	17.15	16.97	16.77	16.58	16.38	16.19	16.00
13 Strides	95	17.10	16.91	16.70	16.53	16.34	16.15	15.96	15.77	15.60
11 Strides	92.5	16.65	16.47	16.30	16.10	15.91	15.73	15.54	15.36	15.20
9 Strides	90	16.20	16.02	15.85	15.66	15.48	15.30	15.12	14.94	14.75
5-7 Strides	87.5	15.75	15.58	15.40	15.23	15.05	14.88	14.70	14.53	14.35
	85	15.30	15.13	14.95	14.79	14.62	14.45	14.28	14.11	13.95

Stride Pattern	%	LJ Distances										
Full Approach	100	6.60	6.80	7.00	7.20	7.40	7.60	7.80	8.00	8.20	8.30	8.40
17 Strides	97.5	6.44	6.63	6.83	7.02	7.22	7.41	7.61	7.80	8.00	8.09	8.19
15 Strides	95	6.27	6.46	6.65	6.84	7.03	7.22	7.41	7.60	7.79	7.89	7.98
13 Strides	92.5	6.11	6.29	6.48	6.66	6.85	7.03	7.22	7.40	7.59	7.68	7.77
11 Strides	90	5.94	6.12	6.30	6.48	6.66	6.84	7.02	7.20	7.38	7.47	7.56
9 Strides	87.5	5.78	5.95	6.13	6.30	6.48	6.65	6.83	7.00	7.18	7.26	7.35
7 Strides	85	5.61	5.78	5.95	6.12	6.29	6.46	6.63	6.80	6.97	7.06	7.14
5 Strides		5.45	5.61	5.78	5.94	6.11	6.27					
3 Strides		5.28	5.44	5.60	5.76	5.92	6.08					

	Men	Women
Long Jump	10.7m/s – 11.0m/s	9.6m/s – 9.8m/s
Triple Jump	10.2m/s – 10.8m/s	9.2m/s – 9.6m/s

Men	40m	60m	100m
Long Jump	4.4 sec	6.6 sec	10.4 sec
Triple Jump	4.6 sec	6.8 sec	10.6 sec

Women	40m	60m	100m
Long Jump	4.8 sec	7.3 sec	11.4 sec
Triple Jump	5.0 sec	7.5 sec	11.6 sec