

APPENDIX B / ANNEXE B / ANHANG B

Scoring of 2006 WMA Combined Events Competitions

The scoring of Master's Combined Events competitions is as follows. In all events the scoring procedure is exactly like normal IAAF Combined Events scoring with the addition of one additional step. That additional step is that the actual performance in each event is multiplied by the appropriate Age Factor to arrive at an Age Factored Performance. This Age Factored Performance (AFP) is then looked up in the current IAAF Combined Events Scoring Tables in the normal manner.

Age Factors: The Age factors to be used for each gender and age group are listed in the appropriate WMA Appendix. Use the full, four place, number for Age Factoring. Round the result of the multiplication as shown below. **Note:** the Age Factors automatically correct for the reducing WMA implements and distances. So a M65-69 man throwing a 5 kilogram Shot can be looked up in the standard IAAF scoring table for the 7.26 kilogram shot put after multiplying his actual performance times the Age Factor because the Age Factor takes into account the fact that he is throwing a smaller Shot. The same is true with a W60-64 woman running 80 meter hurdles, .762 meter high with 7 meter spacing. The Age Factor automatically produces an Age Factored Performance that can be looked up in the standard IAAF 100 Meter, .840 high, 8.5 meter spaced women's hurdle table.

Rounding: The general rule is that rounding is done so as to never give artificial aid to the performer. So, after multiplying the Actual Performance by the Age Factor, be sure to round all running events up to the higher one hundredth of a second and round all throwing and jumping events down to the shorter centimeter. Remember: Run up, Jump and Throw down.

Example:

M50-54 man runs a 13.12 second Actual Performance in the 100 Meter event.
13.12 times .8917 Age Factor equals an Age Factored Performance of 11.699104.
11.699104 rounded **up** equals 11.70 to look up in the standard IAAF Combined Events scoring table.
11.70 is awarded 711 points.

Example:

W35-39 woman jumps a 1.47 meter Actual Performance in the High Jump.
1.47 times the 1.0408 Age Factor equals a 1.529976 Age Factored Performance.
1.529976 rounded **down** equals 1.52 to look up in the standard IAAF Combined Events scoring table.
1.52 is awarded 644 points.

Scoring Tables:

The scoring tables to use are the current edition of the IAAF "Scoring Tables for Men's and Women's Combined Events Competitions" and the various supplements that the IAAF has published. (see below for the formulas that describe the scoring in the tables) If a performance is being scored that does not appear in the tables, be sure to move to the performance that results in less points being scored, not more.

Example:

Looking up a male 66.06 second 400 meter, the 66.09 score must be used not the 66.05 score.

66.06 is closer to 66.05 than it is to 66.09 but is faster than was actually ran.

66.06 therefore is awarded 230 points.

Example:

Looking up a male 12.36 meter Shot Put, the 12.35 score must be used, not the 12.37 score.

12.36 is equally close to 12.37, but 12.37 is further than was actually thrown.

12.36 therefore is awarded 628 points.

Hand Timing:

If Combined Events running events, from 400 meters down (including hurdles), are hand timed, the times have to be corrected before multiplying by the appropriate Age Factor. Then the score must be looked up in the fully automatic portion of the scoring Tables (**The hand times portions of the scoring tables are never used in Master's Combined Events scoring**). The IAAF corrections to apply are:

50 through 300 Meters	add 0.24 seconds to the hand time
400 Meters	add 0.14 seconds to the hand time
all above 400 Meters	add nothing (use auto or hand time as is)

Example: M40-44 man runs a 17.7 second hand timed .991 meter (39") high, 110 meter hurdles.

17.7 plus .24 Correction equals 17.94.

17.94 times .9328 equals a 16.734432 Age Factored Performance.

16.734432 rounds up to 16.74 to look up in standard IAAF scoring table.

16.74 is awarded 652 points.

Weight Throw:

The Weight Throw now has an official IAAF scoring table and is scored as any other throw.

Example: A M70-74 Weight Pentathlete throws the 7.26 kilogram (16 pound) Weight 14.67 meters.

14.67 times the 1.2943 Age Factor equals an 18.987381 Age Factored Performance

18.987381 is rounded down to 18.98

18.98 is looked up in men's Weight table as 964 points.

IAAF Combined Events Scoring Formulas:

The official IAAF scoring tables, as published in the IAAF “Scoring Tables for Men’s and Women’s Combined Events Competitions” are generated by the following mathematical formulas. The results of the formulas must be truncated to the integer and not rounded up. So a formula result of 674.999 is 674 points, not 675, and 872.001 is 872. The actual points formula are as follows with the three constants listed below for all of the Combined Events. Note that performances must be expressed in seconds, centimeters, or meters, as indicated.

Running Events: $\text{Points} = a (b - \text{Performance})^c$

Jumping and Throwing Events: $\text{Points} = a (\text{Performance} - b)^c$

Men:

55 m	a=78.8196	b=10.75s	c=1.81
60 m	a=58.015	b=11.5s	c=1.81
100m	a=25.4347	b=18s	c=1.81
200m	a=5.8425	b=38s	c=1.81
300m	a=2.58503	b=60.1s	c=1.81
400m	a=1.53775	b=82s	c=1.81
1000m	a=.08713	b=305.5s	c=1.85
1500m	a=.03768	b=480s	c=1.85
55m hurdle	a=54.5278	b=14.25s	c=1.92
60m hurdle	a=20.5173	b=15.5s	c=1.92
110m hurdle	a=5.74352	b=28.5s	c=1.92
high jump	a=.8465	b=75cm	c=1.42
pole vault	a=.2797	b=100cm	c=1.35
long jump	a=.14354	b=220cm	c=1.40
shot put	a=51.39	b=1.5m	c=1.05
discus	a=12.91	b=4m	c=1.10
hammer	a=13.0449	b=7m	c=1.05
javelin	a=10.14	b=7m	c=1.08
weight	a=47.8338	b=1.5m	c=1.05

Women:

55m	a=66.2501	b=12s	c=1.81
60 m	a=46.0849	b=13s	c=1.81
100m	a=17.857	b=21s	c=1.81
200m	a=4.99087	b=42.5s	c=1.81
400m	a=1.34285	b=91.7s	c=1.81
800m	a=.11193	b=254s	c=1.88
1000m	a=.07068	b=337	c=1.88
1500m	a=.02883	b=535	c=1.88
55m hurdle	a=28.7345	b=15.5s	c=1.835
60m hurdle	a=20.0479	b=17s	c=1.835
100m hurdle	a=9.23076	b=26.7s	c=1.835
high jump	a=1.84523	b=75cm	c=1.348
pole vault	a=.44125	b=100	c=1.35
long jump	a=.188807	b=210cm	c=1.41
shot put	a=56.0211	b=1.5m	c=1.05
discus	a=12.3311	b=3m	c=1.10
hammer	a=17.5458	b=6m	c=1.05
javelin	a=15.9803	b=3.8m	c=1.04

weight

a=52.1403

b=1.5m c=1.05