

COURSE MEASUREMENT

In response to the ever increasing number of road races seeking permits, Athletics NI is keen to extend the list of Certified Course Measurers. Course Measurers throughout the UK are governed by the United Kingdom Association of Course Measurers (AUKCM) and they act in an independent capacity to ensure the accuracy of all road races which advertise as being of a particular distance eg. 10k, Half Marathon etc. Athletics NI operates a system whereby accredited measured courses are accorded a 'green tick' on the Fixture List and these are the only events accepted by Power of Ten and Run Britain for ranking purposes.

Course measurement is carried out using a device called a Jones Counter which is attached to the hub of a bicycle wheel and this method is used throughout the world. While similar in appearance to the old bicycle device which measured distance the Jones Counter only provides the measurer with a number of registered clicks. Thus the starting figure might be 600000 and the finishing reading 654321. The difference between them is therefore 54321 clicks. This of course is meaningless unless you know what each click represents and that will be different every time you ride the bike. This is where the pre-measurement calibration comes in.

Every measurer will have his own carefully measured calibration course. Usually this is a 400 metres straight measured using a 50m steel tape with a set of hand scales to get the correct tension and a thermometer which measures ground temperature with an appropriate correction being made based on manufactures guidelines. This course is defined by nails driven into the road at either end.

On the morning of any course measurement this precise 400m is ridden four times with the number of clicks registered each time. These are then averaged to give a number of clicks per 400m. Depending on whether the course director is looking for kilometre or mile markers the following calculations are made:

Clicks per kilometre = Average No. of clicks per 400m x 2.5 x 1.001

Clicks per mile = Average No. of clicks per 400m x 2.5 x 1.60934 x 1.001

The 1.001 calculation is a built in safety device to ensure that the course is never too short. Thus a 1m per 1000m addition is built in to all calculations making a 10000 metres up to 10 metres long and a marathon up to 42 metres long.

Having done all his calculations the course measurer cycles the course presented by the race director setting down kilometre or mile markers as required and informs the director of any adjustments that are required. Since most measurements are done backwards because finish lines are usually sacrosanct the adjustments are generally made to the start but in some cases where start and finish are both set in stone (eg the Belfast Marathon) it is sometimes necessary to make adjustments around the course (not always easy!).

This is not the end of the measurer's day. He must now return to his calibration course and do another four rides and redo the calculations to make sure that tyre deflation has not had a significant effect on his measurements. It is recommended that the higher of the two readings is used and this can mean minor changes being made (for example in a recent marathon measurement 3 metres had to be added).

The measurer having satisfied himself as to the shortest distance possible will provide the Course Director with a Certificate of Accuracy which provided the course is not changed will remain in effect for 10 years.

REQUIREMENTS:

A bicycle

A Jones Counter (this can be provided)

A means of transport as measurements can be required anywhere in Northern Ireland.

A fair amount of free time



Anyone intending to achieve certification must first complete the on-line introductory test which can be found on the AUKCM website at <http://coursemeasurement.org.uk/lessons/index.htm>

Having successfully completed this test the candidate will have to complete a practical under the guidance of a qualified measurer.

Athletics NI will endeavour to provide an introductory course for anyone who expresses an interest.

It should be noted that measurers only receive a modest sum plus travelling expenses, currently paid by Race Directors, for carrying out this task.