USATF ROAD RUNNING TECHNICAL COUNCIL
APPLICATION FORMS FOR COURSE CERTIFICATION

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This document contains all the forms you'll need to apply for USATF/RRTC course certification. The above table of contents can help you print only the pages containing the forms needed on a particular occasion. For example, if you're just measuring a calibration course, you'll need the Steel Taping Data Sheet and the Application for Certification of Calibration Course (pages 2-3). If you already have a calibration course and you're just measuring a road course, you'll need the Bicycle Calibration Data Sheet, Course Measurement Data Sheet, and Application for Certification of a Road Course (pages 4-7).

These forms should be sent to the **RRTC Course Certifier** in your State. The current list of certifiers can be found on the RRTC website at http://www.rrtc.net/ or you may obtain this information by phoning RRTC Chairman Gene Newman at 520-904-7805.

You'll probably have to send a **processing fee** along with your application. These fees vary from State to State, so we can't tell you how much to send. Check with your Certifier to determine the proper fee **before** sending in the application! (Note: there is no fee for certifying a calibration course.)

STEEL TAPING DATA SHEET
(for measuring a calibration course or track)

Name of Calibration Course _____

City and State _____ Date _____

Start Time _____ Finish Time _____

Pavement Temperature: Start _____ Finish _____ Average _____
(Thermometer shaded from direct sun)

Measurements and Calculations:

1. First Measurement. This establishes tentative start and finish marks which should not be changed until the final adjustment on line 6 below.

_____	×	_____	+	_____	=	_____
# tape lengths		distance per tape length		partial tape length		measured distance

2. Second Measurement. This checks the distance between the SAME tentative start and finish points marked in the first measurement, but use new intermediate taping points.

_____	×	_____	+	_____	=	_____
# tape lengths		distance per tape length		partial tape length		measured distance

3. Average Raw (uncorrected) Measurement of Course _____

4. Temperature Correction. Use the average pavement temperature during measurement in whichever formula is appropriate (for Celsius or Fahrenheit temperature). Work out answer to at least seven digits beyond the decimal point.

Correction factor = ([Temp(°C) – 20] × .0000116) + 1.0000000
Correction factor = ([Temp(°F) – 68] × .00000645) + 1.0000000
Correction factor =

NOTE: For temperatures below 20 °C (68 °F), factor is less than one
For temperatures above 20 °C (68 °F), factor is greater than one

5. Multiply the temperature correction factor by the average raw measurement of the course (line 3)

_____	×	_____	=	_____
correction factor		avg. raw measurement		corrected measurement

6. If you wish, you may now adjust the course to obtain an even distance, such as 300 meters (not applicable if measuring a track). This is not necessary as you may choose instead to use an odd-distance calibration course whose endpoints are pre-existing permanent objects in the road to guard against hazards such as repaving. If you adjusted the course, explain what you did.

Final Adjusted Length of Calibration Course _____

CONVERSION FACTORS: 1 foot = 0.3048 meters
300 meters = 984.25 feet
1 kilometer = 1000 meters = 3280.84 feet

APPLICATION FOR CERTIFICATION OF CALIBRATION COURSE

1. Name of Calibration Course _____
2. Length of Calibration Course _____
3. City and State _____
4. Date(s) Measured _____
5. Method Used to Measure Calibration Course _____
6. How many times did you measure the calibration course? _____
7. Measuring Team Leader: _____ , _____
   (Name) (Telephone #)

   _____
   (Address) (E-mail address)
8. List Names and Duties of Team Members:

9. Submit a **map** of this calibration course, showing direction of north, the name of the road (and relevant cross streets), and the exact locations of start and finish points, including taped distances from nearby permanent landmarks.
10. Is this calibration course: STRAIGHT?_____ PAVED?_____
11. How are the start and finish points marked? _____
12. Are the start and finish points located in the road where a bicycle wheel can touch them or elsewhere?

13. Approximate altitude of calibration course (meters or feet – specify which)_____

Mark endpoints in a permanent way (concrete or P-K nails). Paint will fade. The calibration course, once certified, can be used to measure many courses. TAKE CARE OF IT!

14. If the calibration course was measured by **Electronic Distance Meter (EDM)**, describe on a separate sheet the exact procedures used; also include a copy of the original field notes from the measurement.
15. If the calibration course was measured by **steel tape**, fill out a copy of the **steel taping data sheet** and complete the following:
16. How much tension (force) was applied to the tape while measuring? _____
17. How was this tension maintained? _____
18. Was the tape free of any kinks, crimps or splices? _____
19. Bicycle Check. This is a check against miscounting the number of tape lengths. (If you used a gross measurement check other than a bicycle, please explain.)

    A. Counts for full calibration course _____

    B. Counts for one tape length _____

    C. Divide A by B _____

    D. Number of full tape lengths _____

BICYCLE CALIBRATION DATA SHEET

Date of Measurement _____

Name of Measurer_____

Length of calibration course _____

1. Ride the calibration course 4 times, recording data as follows:

   Ride Start Count Finish Count Difference

   Pre-measurement
   Average Count_____

   Time of Day _____

   Temperature _____

   Note: The spread shouldn't exceed 2 to 3 counts for riding each direction of the calibration course.

WORKING CONSTANT = Number of counts in one kilometer or one mile, calculated from Pre-measurement average count, and multiplied by **1.001 "safety factor."**

Working Constant =

2. Now, measure the course, including all intermediate distances, using the working constant. Enter data on the **"Course Measurement Data Sheet."**
3. Recalibrate the bicycle by riding the calibration course 4 times, recording data as follows:

   Ride Start Count Finish Count Difference

   Post-measurement
   Average Count_____

   Time of Day _____

   Temperature _____

   Note: The spread shouldn't exceed 2 to 3 counts for riding each direction of the calibration course.

FINISH CONSTANT = Number of counts in one kilometer or one mile, calculated from Post-measurement average count, and multiplied by **1.001 "safety factor."**

Finish Constant =

CONSTANT FOR THE DAY = **Either** the Working Constant **or** the Finish Constant, whichever is the **larger***.

Constant for the Day = _____

Remember, each day's measurement must be preceded and followed by a calibration run. You may measure as much as you want in a day, just so calibration precedes and follows it in the same 24 hour period. This is done to minimize error due to changes in tire pressure from thermal expansion and slow leakage. Frequent calibration "protects" the previous measurement. A smart measurer will recalibrate frequently—you never know when a flat tire is coming!

CONVERSION FACTOR: 1 mile = 1.609344 kilometers

***** You may, if you wish, define your "Constant for the Day" as the *average* of Working and Finish constant instead of the larger. However, if you use the average, you will produce a shorter race course, which will face a greater risk of being found short if it ever needs to be verified. Therefore, use of the **larger** constant is strongly recommended.

COURSE MEASUREMENT DATA SHEET

Name of Course or Race Name _____

Name of Measurer for ride #1 _____ Working Constant #1 _____

Date _____ Start: Time _____ Temperature _____

Finish: Time _____ Temperature _____

Name of Measurer for ride #2 _____ Working Constant #2 _____

Date _____ Start: Time _____ Temperature _____

Finish: Time _____ Temperature _____

Measurement Data. Use the first measurement ride to lay out the start/finish points and all intermediate split points. Use the second ride to record counts at those **same** points. **Do not lay out a second set of marks!**

Measured Point	Counts for Measurement #1 Recorded	Interval	Counts for Measurement #2 Recorded	Interval

Preliminary Course Length	start-to-finish counts	divide by	working constant	=	measured length
Measurement #1	_____	/	_____	=	_____
Measurement #2	_____	/	_____	=	_____

Difference between lengths #1 and #2	divide by	length #1	=	Measurement comparison (less than 0.0008?)	
_____	/	_____	=	_____	(____) [yes or no]

IMPORTANT. Before you leave the course, compare the two measurements. They should agree to within 0.08%. If the two preliminary measurements do not agree to within 0.08%, something is wrong. Fix it! Then go to the calibration course and recalibrate.

If either of the **Constants for the Day** (for measurement #1 or #2) is **not** the same as the **Working Constant** for that measurement, recalculate the length of the course here:

Final Course Length	start-to-finish counts	divide by	constant for day	=	length of course
Measurement #1	_____	/	_____	=	_____
Measurement #2	_____	/	_____	=	_____

The length of the race course is the *lesser* of the two lengths calculated above.

Measured course length _____. Desired course length _____
Use a steel tape to add or subtract distance as required to bring the **minimum** length to the same value as the desired course length.

How much did you add or subtract, and where (start, finish, turn-around point)?

_____

Note: you need not adjust intermediate split points unless certification is desired for those points as well. Did you adjust the intermediate points and, if so, how?

APPLICATION FOR CERTIFICATION OF A ROAD COURSE
The Calibrated Bicycle Method

1. Name this Course will be Known By_____

2. Advertised Race Distance _____ Race Date _____

3. Location of Start _____ Finish (if different)_____
   City, State City, State

4. Person in Charge of Measurement:

   _____ _____ (_____) ____ - _____
   (Name) (Address) (Zip) (Telephone)

   _____
   (E-mail address)

5. Race Contact (if course is measured for a specific race):

   _____ _____ (_____) ____ - _____
   (Name) (Address) (Zip) (Telephone)

   _____
   (E-mail address)

6. If this course replaces an older course that has changed physically (e.g., due to construction) and is no longer usable as certified, please give certification code of the old course that is no longer usable:

CALIBRATION OF BICYCLE

7. Did you calibrate the bicycle on a calibration course previously certified by the Road Running Technical Council?

   _____(YES or NO)

   If YES, enclose a copy of the certificate and map verifying RRTC certification of the calibration course.
   If NO, you must enclose an Application for Certification of Calibration Course.

8. Is your **bicycle calibration data sheet** attached? _____(YES or NO)

9. Did you include the factor of 1.001 in your calibration constant? _____(YES or NO)

SUMMARY OF MEASUREMENTS

10. Date(s) of measurements_____

11. How many measurements of the course were made? _____

12. Name(s) of measurer(s) _____

13. Exact length of course _____

14. Difference between longest and shortest measurements _____

15. Which measurement was used to establish the final race course and WHY?

16. Is your **course measurement data sheet** attached? _____(YES or NO)

COURSE LAYOUT AND MARKING

17. Is your **course map** attached? _____(YES or NO)

    NOTE: The course map need not be to scale but must indicate direction of north. It must be black & white and fit on 8.5x11 paper. Descriptions of the **exact** positions of the **start**, **finish**, and all **turn-arounds** relative to permanent landmarks must be included on the map. Details of any restricted portions where cones and monitors are required must be detailed. Include a line representing the actual measured path.

18. List all intermediate **splits** (attach list describing the position of each relative to permanent landmarks).

APPLICATION FOR CERTIFICATION OF A ROAD COURSE
The Calibrated Bicycle Method (continued)

19. How far from the curb (edge of pavement) did you measure on curves? _____

20. If your course contains pairs of opposite turns (right-to-left or left-to-right), did you follow the shortest diagonal path?

    _____(YES or NO)

    Be sure your map shows the exact measured path.

21. Does your course contain any turn-around (double-back) points?_____(YES or NO)
    If YES, show them on course map, located exactly.

22. Does your course include any winding or "S" curved sections? _____(YES or NO)
    If YES, be sure your map makes it clear how you measured.

23. Did you measure an **unrestricted** route? Do the runners have use of the entire road, from curb to curb?

    _____(YES or NO)

    If your course requires cones or barriers to keep runners on the proper route, be sure your map shows their exact locations, just as you would locate the start and finish.

24. Type of coures (check one):

    _____one loop ____ time(s)
    _____figure-8 _____ time(s)
    _____partial loop
    _____complex of different loops
    _____ same out/back_____ time(s)
    _____ several out/back sections
    _____ keyhole (out/loop/back)
    _____ point-to-point

25. Straight-Line Distance (as the crow flies) between Start and Finish _____

26. Altitude of Race Course above mean sea level (meters or feet – please specify which!):

    start _____ finish_____ highest _____ lowest _____

27. Type of surface (give percentages):

    _____paved
    _____dirt
    _____gravel
    _____ grass
    _____ track

    If your course includes any unpaved sections, please attach a detail of the method(s) used to measure such sections.

28. Have you included your start, finish and turn-around (if applicable) diagrams on your map?

    _____(YES or NO)

29. How did you mark the start and finish points (and turn-around points)?

    _____

30. Did the same person ride the bicycle on both the calibration course and the race course for any given measurement?

    _____(YES or NO)

31. Describe weather conditions during the calibration and measurement rides:

    _____

32. Did you perform both the pre-measurement and post-measurement calibrations and the measurement of the race course on the same day?

    _____(YES or NO)