



Master Class Aerobic Conditioning

Created by Tom Scotto, ICA Master Instructor
Training Type: Cardiovascular Fitness
Working HR Zones: Zones 3–4
Total Class Length: 60 minutes

Profile Objective and Intensity:

As January is upon us, it is time once again to rebuild our fitness. This base-building process has a number of elements such as muscular endurance, muscular strength, leg speed, aerobic endurance, and, our focus for this profile, aerobic conditioning.

In order to take advantage of and benefit from an increase in overall fitness, a solid aerobic base must be set. Without this cardiovascular fitness, the ability to sustain an effort over time, as well as target higher intensities, will be hindered. This master class explores shorter aerobic intervals in which the stimulus is greater intensity, and aerobic steady-state where the stimulus is duration.

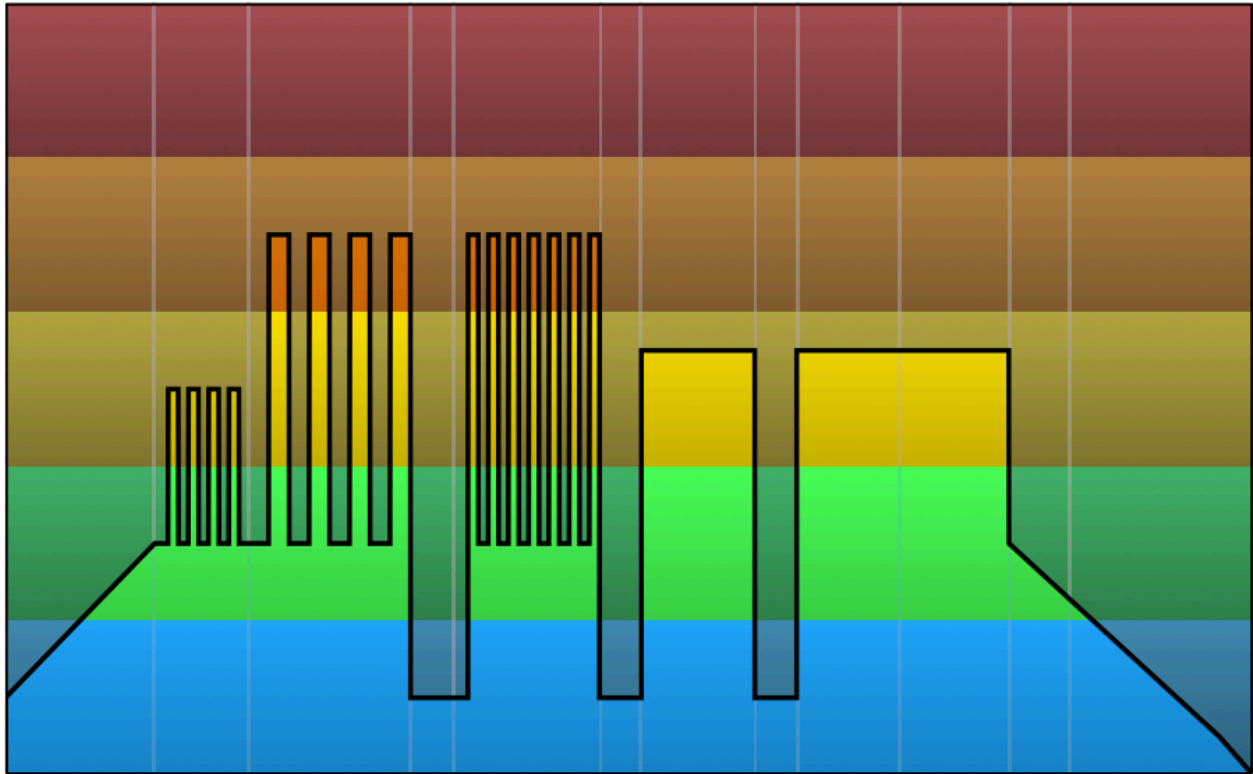
This is an ideal class for everyone (cyclist and fitness enthusiast) since the overall intensity is not high, the efforts are easy to target, and the drills are not complicated. Since it is fairly common for most of the riders in your class to arrive deconditioned to some degree come January, the intensity and focus of this class could not be more perfect.

A Note About Cadence

With a goal to emphasize stress on the cardiovascular system, leg speeds will range from the high 80s to ~100 rpm. Slower cadences (particularly those at or below 80 rpm) will refocus the stress toward the muscles of the legs, causing them to fatigue and prematurely robbing riders of much needed aerobic fitness.

Graphic Profile

(Provided by Class Builder™)



Aerobic Conditioning Coaching

Intro / Warm-Up

Perfect on Sunday (Protect Mix), Master Margherita & Kali, 7:23, 100 bpm

Usual pre-flight information: intro, zones, form, hand positions, safety, etc.

Welcome to the early part of the year and a time to once again focus on rebuilding our fitness.

There are a number of basic elements that contribute to holistic fitness, the desire of both fitness enthusiasts and cyclists alike. They include aerobic conditioning, leg speed, muscular endurance, and muscular strength. Today we are going to focus on aerobic conditioning.

In order to increase our aerobic fitness, we need to stress our cardiovascular system. I'm not looking to stress you out in a bad way (mentally or emotionally), but instead place enough exercise stress on your aerobic system to cause it to improve.

Most of our efforts today are going to target Zone 3 and Zone 4. Before you Zone 5 junkies get concerned, keep in mind that we will have little opportunity to recover, making this workout difficult. We must first build a solid platform of fitness so that when we do head into Zone 5, it benefits us instead of shuts us down.

Today's profile will have two flavors. First we will focus on short, higher-intensity efforts. This will cause you to start to adapt to intensity. The second half of class will focus on long, moderate-intensity efforts. The latter changes the stimulus from intensity to duration. Both focuses are necessary for well-conditioned aerobic fitness.

Our cadence range will target between 85 and 100 rpm. This will keep the emphasis of the stress cardiovascular. If the legs slow to a cadence of 80 rpm or less, the emphasis becomes the legs, which can prematurely fatigue the muscles and shut you down. I do not want you to shut down too soon, but rather suffer...eh...I mean enjoy each effort to its fullest.

Warm-Up Continues—Muscle Activation**Overgrowth, Shen, 4:39, 96 bpm**

Short efforts with moderate to heavy resistance that slow the legs and target Zone 3.

It is important for us to ensure our legs are ready for what is about to happen even though we are focusing on our aerobic conditioning. We are still using the legs and they are still receiving a great benefit, although not emphasized.

We are going to perform four efforts where we add enough resistance to force our legs to slow down. We will hold this slower pace and then release some of the resistance and return to our original cadence.

Let's start by finding our base cadence. The speed of the music is 96 bpm, which is ideal. Do the best you can when setting your base cadence. Choose a speed that works for you if you cannot pedal at 96 bpm.

OK, now let's start adding resistance until our legs are forced to slow from our base cadence. Try not to voluntarily slow your legs, but truly let them slow as a result of the resistance. Excellent. Push through this heavy resistance for 30 seconds.

20 seconds to go...10 more seconds...4...3...2...1. Now remove some of the resistance and return to your base cadence for 30 seconds. We have three more.

(Repeat.)

Aerobic 60-Second Intervals—Seated**Shiny Girl, Cell, 7:58, 96 bpm**

While maintaining a 96 rpm cadence, riders will add resistance WITHOUT slowing down their legs, and then maintain speed under resistance for 60 seconds while targeting Zone 4. Recover for 30 or 60 seconds and repeat.

All right, it is time to get down to business and start kicking our aerobic system back into gear so we can tackle those weekend rides, charity rides, races, cycling vacations, or just make sure anyone trying to keep up with us in life finds themselves exhausted.

Let's start by determining the leg speed we are going to try to maintain for the next 8 minutes. 8 minutes?! Yes, you can do this. The tempo of the music is 96 rpm, which is a good target if that is something you are able to obtain today.

Once you establish your leg speed, start adding resistance until you have enough to support your body weight out of the saddle. This is your base resistance.

Similar to the muscle activation efforts we did in the warm-up, we are going to add resistance, but this time we are NOT going to slow down our legs. As soon as you feel your cadence beginning to slow, stop adding resistance and try to sustain that effort for

60 seconds. The target intensity is Zone 4. Be careful not to stumble into Zone 5. If that happens, decrease your resistance in small amounts until you can stabilize your effort.

OK, hold on to your leg speed and start adding resistance. We start the clock in 4...3...2...1... You're in! Don't be afraid to experiment and certainly do not think you will figure this out on the first try. Play with the amount of resistance until you find a level of effort you can sustain.

45 seconds to go...30...20...15 seconds...hold on to it...10...4...3...2...1...

Do not slow down your legs, but instead back off some of the resistance and prepare for the next interval. If you find yourself in need of more time to recover when the next interval starts, skip it and wait until the following one. It is more important to shoot for quality instead of doing a bunch of mediocre intervals.

(Repeat.)

Recovery

Don Da Terra, World Percussion Collective, 2:04, 93 bpm

Whether using heart rate or perceived exertion, encourage riders to recover as much as they can. Ideally we want them to return to Zone 1, but this may not be possible until their fitness improves.

This song is our recovery theme for class. Whenever you hear it, it is time to back off and recover for our next challenge.

You have 2 minutes to recover. If you have a heart rate monitor, track how many beats your heart rate recovers each minute. As you improve your fitness, not only will you be able to hit and sustain higher heart rates, but your heart rate will also recover quicker.

(Explain the next drill.)

**Aerobic 30-Second Intervals—Standing
Stones of Gaza, Mauxuam, 7:16, 88 bpm**

While maintaining an 88 rpm cadence, riders will stand WITHOUT slowing down their legs for 30 seconds, targeting Zone 4. Recover for 30 seconds and repeat.

This next set of intervals gets us out of the saddle. Since we are going to be standing, the efforts will not be as long—30 seconds—and the cadence will also be slower—88 rpm.

Just as with the last set of intervals, we will begin by finding the cadence we can hold for 7 minutes and then add enough resistance to support our body weight when standing. You may need to make adjustments with each interval until you dial it in.

The objective is to stand and sit with no change in leg speed. Standing at 88 rpm or a fast tempo of your liking (not to exceed 100 rpm) should be adequate to drive your heart rate into Zone 4.

As before, go for quality. If you find you did not recover from the previous standing interval, sit out the next and try to stabilize your heart rate. Then join back in.

Set your cadence and your resistance. We are standing in 4...3...2...1...

Remember to remain relaxed out of the saddle. Find your balance over the bike (between the seat and handlebars) and allow natural upper body (lateral) movement.

(After 30 seconds) Return to the saddle, maintain your cadence, and try to recover your heart rate before the next interval in 30 seconds.

(Repeat.)

Recovery**Don Da Terra, World Percussion Collective, 2:04, 93 bpm**

Explain to riders that the emphasis will now change from intensity to duration.

In the first half of class we were targeting higher heart rates. Although they were not Zone 5 efforts, they were still very challenging, especially at this time of year.

Now we are going to shift the stimulus from intensity to duration.

We are going to perform two aerobic steady-state efforts. The first is 5 minutes long and the second is 10 minutes.

Your goal is to target Zone 3 for the duration of each with a cadence between 85 and 100 rpm.

Do the best you can. If you cannot hold the effort for the entire time, take a short break or two and then rejoin. Over time, your body and fitness will adapt.

Aerobic Steady State—5 Minutes

Embers, Hibernation, 5:36, 95 bpm

Riders will attempt to hold a steady-state effort at a cadence between 85 and 100 rpm, targeting Zone 3.

It is time to train our body to adapt to duration. Indoor cycling can often consist of a large portion of interval training, but changing the stimulus to duration provides an additional benefit and element of fitness.

This first aerobic steady-state effort is 5 minutes long. The objective is to hold a cadence of 85–100 rpm in Zone 3 for the duration.

This is where the Zone 5 junkies in the room may get a bit of education. Zone 3 doesn't appear to be that hard until endured for a long time. Only time will tell. ;-)

To start, find your cadence. The rhythm of the music is 95 rpm, which is a good goal. Find a cadence you can hold for 5 minutes.

Next, make sure you have enough resistance to allow you to stand if so desired. If you want to stand to stretch the legs or for a change of pace, be my guest. However, if you stand, stand at tempo. This means your cadence should remain the same seated and standing. I do not recommend you stand for longer than 15–20 seconds, as this will drive your heart rate up. Our goal is steady.

It will be important to provide riders with intermediate time checks to maintain motivation. Provide time checks every minute until 2 minutes to go. Then 1:30, 1:00, 0:45, 0:30, 0:20, 0:15, 0:10, 4...3...2...1... done!

Recovery

Don Da Terra, World Percussion Collective, 2:04, 93 bpm

Prepare them for the final 10-minute steady-state effort.

All of a sudden 2 minutes may not be enough time to recover! It will all depend on your current aerobic fitness and your ability to remain stable, avoiding Zone 4.

Our last drill is 10 minutes of aerobic steady state!

Do the best you can. As before, feel free to break it down into smaller digestible chunks. The intention is not for everyone to execute each of these classes perfectly. Instead, these classes are designed as training that should challenge us to push our limits so we can grow and improve.

Aerobic Steady State—10 Minutes**Bjhanji, Celtic Ragas, 5:06, 104 bpm****Trara, Entheogenic, 5:22, 101 bpm**

Riders will attempt to hold a steady-state effort at a cadence between 85 and 100 rpm, targeting Zone 3.

This is our last drill of class. What do you have left?

We are again targeting a steady-state effort in Zone 3, but we are doubling the length to 10 minutes!

Since we are getting toward the end of class, you will not have the energy you did at the start. This is not an excuse to back down; rather, you may need to spend more time fine-tuning your intensity to avoid drifting into Zone 4.

As you fatigue, the battle between Zone 4 and shutting down emerges. This will take a greater focus and the ability to listen to your body for warning signs.

If you need to add or remove resistance, make those changes very small. Then wait 20–30 seconds to see how the body responds before making further corrections.

In addition to providing intermediate time checks as before, they will need motivation and tools to keep them on track. I suggest asking your riders to synchronize their breathing and pedal stroke. For example, every 3–6 pedal strokes they inhale and every 3–6 pedal strokes they exhale. Have them find a number that works for them. This will help them stabilize both their breathing and cadence.

Giving riders a different focus every minute is also a great way to retain their focus:

Minute 1: Find and stabilize intensity and cadence

Minute 2: Focus on breathing rhythm

Minute 3: Feel the sensation in your hands and relax your fingers

Minute 4: Focus on relaxing the neck and shoulders

Minute 5: Close eyes and imagine a long open flat road

Minute 6: Relax the feet

Minute 7: Focus on keeping the knees in alignment

Minute 8: Focus on the hips—quiet, stable, and strong

Minutes 9 & 10: Count down.

Final Thoughts

Although some riders will still take the opportunity to push into Zone 5 (they just can't help themselves), others will follow your coaching and target the correct zones. Some may get discouraged that short efforts in Zone 4 and steady efforts in Zone 3 felt so hard. This is where you can help them recapture the objective of class and the need for building or rebuilding their base fitness at the beginning of the year. Help them understand that this is the challenge of all well-trained athletes and particularly cyclists. Share your personal stories. My riders are always encouraged by my stories of physical and emotional struggle in trying to regain my fitness.

Aerobic Conditioning Profile

Section	Music	BPM	Time
Intro / Warm-up	Perfect on Sunday (Protect Mix), Master Margherita & Kali (iTunes, Amazon)	100	7:23
Muscle Activation	Overgrowth, Shen (iTunes, Amazon, eMusic)	96	4:39
Aerobic 60-Second Intervals—Seated	Shiny Girl, Cell (iTunes, Amazon)	96	7:58
Recovery	Son Da Terra, World Percussion Collective (iTunes, Amazon, eMusic)	93	2:04
Aerobic 30-Second Intervals—Standing	Stones of Gaza, Mouxuam (iTunes, Amazon, eMusic)	88	7:16
Recovery	Son Da Terra, World Percussion Collective (iTunes, Amazon, eMusic)	93	2:04
Aerobic Steady State 5 Minutes	Embers, Hibernation (iTunes, Amazon, eMusic)	95	5:36
Recovery	Son Da Terra, World Percussion Collective (iTunes, Amazon, eMusic)	93	2:04
Aerobic Steady State 10 Minutes (Part 1)	Bjhanji, Celtic Ragas (iTunes, Amazon, eMusic)	104	5:07
Aerobic Steady State 10 Minutes (Part 2)	Trara, Entheogenic (iTunes, Amazon, eMusic)	101	5:23
Cool-down	DNA, Ashtech (iTunes, Amazon, eMusic)	79	3:01
Stretch	Shakti Trance, The Relaxation Specialists (iTunes, Amazon, eMusic)	~	7:22*

*Shakti Trance is 9:02 in length but shortened to keep the class to 60 minutes.