

## Periodization

### *Benefits of the Aerobic Period*

1. **Develops fat-burning system.** Training in the aerobic zones allows for the 3 stages of fat loss to occur:
  - a) The release of fat from cells;
  - b) The transportation of fat to the muscles; and
  - c) The eventual burning of that fat made possible by the high concentrations of fatty acids and an abundance of oxygen with which to burn them.

*Note: Training anaerobically trips up the process. As soon as lactic acid is introduced there is blockage of the enzymes needed to liberate the fat from the cells.*

2. **Improves performance.** Aerobic exercise helps you use oxygen more efficiently at a given exercise intensity. This measurement, known as your VO<sub>2</sub>max, is currently the chief predictor of endurance performance.
3. **Strengthens immune system.** Low-stress aerobic training will help maintain your health and strengthen your immune system. This is especially valuable when you eventually introduce periods of anaerobic training – the kind that makes you most susceptible to illness.
4. **Reduces injuries.** Comfortably paced aerobic exercise allows your joints and connective tissue to strengthen and absorb increasing stress loads without breaking down. This enables you to eventually introduce more intense sessions with minimal risk of injury.
5. **Increases energy.** Aerobic exercise is energizing to your body – you’ll have more energy for your day if you’ve exercised. Contrast this with high-intensity anaerobic exercise, which although it may be exhilarating, often leaves you with less energy in the hours after your session. Becoming fatigued instead of energized from exercise is the primary cause of burnout.
6. **Increased mental focus.** At lower heart rates, students can be more relaxed and at ease as they ride. A class becomes more enjoyable. This makes it easier to transfer your focus from the physical to the mental aspects of the ride.
7. **Boosts performance at a given heart rate.** As students become more efficient at controlling their heart rates, they’ll begin to discover that they can perform more work at the same or lower heart rate.

### *Benefits of the Strength Period*

1. **Improves cardiovascular strength.** By remaining within an “aerobic” zone during this period, the adaptations you make will help to enhance not only muscular strength (because of the increase in resistance used), but also cardiovascular strength. Maintaining a steady heart rate at an increased resistance level will make your heart and lungs more efficient.
2. **Enhances muscular endurance.** During the Strength period, the body improves its ability to remove lactate from the blood and teaches the muscles to rely more heavily on fat for fuel as they spare glycogen. This gives the muscles more endurance.
3. **Strengthens tendons and ligaments.** The gradual increase in resistance over time will allow for a progressive adaptation in the ligaments and tendons. This also allows for a lower incidence of injury to these areas during higher-intensity work.
4. **Increases mental focus.** One of your goals during the strength period is to maintain your heart rate within a limited range – five beats, plus or minus two beats. This is an excellent way to increase mental focus.
5. **Improves power/climbing ability.** The more resistance you can accommodate on the flywheel and the faster you can move that resistance (while staying within the RPM guidelines), the more efficient you will become. This translates into more power generation and the ability to climb more efficiently.

### *Benefits of the Anaerobic Period*

1. **Pushes fitness base to a new level.** Anaerobic training will quickly and dramatically increase your fitness level, but only if you are fully rested and fully recovered from each intense session. You should never force your body through difficult sessions when it's not rested, ready and willing. The stressful nature of anaerobic exercise can easily result in burnout, illness, and injury if you fail to recover adequately.
2. **Improves anaerobic system.** Anaerobic training challenges your body's ability to carry and deliver oxygen to muscle cells for short periods of fairly intense work before too much lactic acid builds up. Over time, the oxidative capacities of your muscle fibers will improve, thus improving your ability to work at a higher percentage of your VO<sub>2</sub>max.
3. **Increases ability to train at threshold.** Training at one's anaerobic threshold will improve the body's ability to transport oxygen, remove metabolic waste products and improve both aerobic and anaerobic energy pathways.
4. **Increases the body's ability to buffer lactic acid.** Anaerobic threshold training will also shorten lactic acid clearance time, making it easier to ride for longer periods of time at a high gear and at high heart rate. Training at or slightly below anaerobic threshold will help the body to buffer, recycle and clear waste from lactic acid production during high-intensity exercise.
5. **Increases mental and physical ability to attain peak performance.** Studies of elite athletes indicate that they focus on what they are doing at all times during an event, while recreational competitors tend to think of other things while racing. Training at anaerobic levels indoors will help to hone your ability to stay in the moment and focus

on each stride, stroke, and pedal cycle so you can put forth your best performance. Intensity training also allows you time to develop your focus on what you can control. Breathing and exerting at inopportune times are all things you can work on to enhance your peak performance.

### ***Benefits of the Rest Period***

- 1. Allow for mental and physical recovery.** Complete rest will allow your body to “bottom out” and achieve the deep rejuvenation that you need to continually improve without breaking down. Giving yourself a break mentally will restore your motivation so you can work toward higher goals in the future.
- 2. Aid in decreasing exercise compulsion/addiction.** Exercisers who never take time off from training – or thinking about training – become compulsive and overly attached to the results of their training. Taking a rest period will allow you to fully enjoy your exercise program.
- 3. Enhances peak performance.** The Rest Period should be appreciated to the fullest. This is the only way you can apply the focus and dedication you need to attain peak performance later in the season and still maintain a balanced lifestyle.
- 4. Decreases athletic stress, fatigue and burnout.** When you fail to get adequate rest and balance for your mind and body, fatigue and stress accumulate until you reach a state of burnout, injury or illness.
- 5. Increases time for family and friends.** Add up the amount of free time you have if you incorporate rest into your training schedule: 1 day per week; 1 week every six weeks of training; 1 month (minimum) for every annual cycle; 38 days/year minimum to spend as you so desire without the need to focus on exercise.



## Fall 2007 Periodization Program

*Periodization is the concept of dividing the calendar year into periods characterized by different terms of training.*

Four general periods are:

**Aerobic      Strength      Anaerobic      Rest**

**Periodization reflects your body's need for balance.**  
**We will be running through 2 full periodization schedules this session.**

### Periodization Schedule #1 AEROBIC TRAINING - 4 weeks

Heart Rate Zone	Workout Goal	Weeks	Benefits
65-75% Maximum Heart Rate	Endurance Class During every training session your heart rate should not exceed 75%, or what you feel is not a comfortable pace that can be sustained for long periods of time. You don't want to go anaerobic. You should always be able to carry on a conversation comfortably while exercising.	<ul style="list-style-type: none"> <li>September 10-16 INTRO week</li> <li>September 17-23</li> <li>September 24-30- Endurance</li> <li>October 1-7 - Endurance</li> </ul>	<ol style="list-style-type: none"> <li>Develops fat-burning system.</li> <li>Improves performance.</li> <li>Strengthens immune system.</li> <li>Reduces injuries.</li> <li>Increases energy.</li> <li>Increased mental focus.</li> <li>Boosts performance at a given heart rate.</li> </ol>



## STRENGTH TRAINING - 2 weeks

*Strength training should be 2 -3 times per week in the Heart Rate Zone indicated. Any other training should in the Endurance Zone i.e. 65 – 75% of maximum heart rate.*

Heart Rate Zone	Workouts	Benefits
75-80% Maximum Heart Rate	<ul style="list-style-type: none"> <li>October 8-14: Strength Class- Combination Seated and Standing Climb.</li> <li>October 15-21: Strength Class- Seated, Standing Climb, running with resistance and jumps on a hill.</li> </ul>	<ol style="list-style-type: none"> <li>Improves cardiovascular strength.</li> <li>Enhances muscular endurance.</li> <li>Strengthens tendons and ligaments.</li> <li>Increases mental focus.</li> <li>Improves power/climbing ability.</li> </ol>

## ANAEROBIC TRAINING - 2 Weeks

*Anaerobic Training should be 1-2 times per week in the Heart rate Zones indicated. Any other training should be recovery, i.e. 50-65% of the maximum heart rate; or complete REST.*

Heart Rate Zone	Workouts	Benefits
85 -92% Maximum Heart Rate	<ul style="list-style-type: none"> <li>October 22-28: Intervals – Running, Jumps, Sprints.</li> <li>October 29-November 4: Intervals – Sub Max Assessment, or intervals if participants do not wish to partake in Sub Max assessment.</li> </ul>	<ol style="list-style-type: none"> <li>Pushes fitness base to a new level.</li> <li>Improves anaerobic system.</li> <li>Increases ability to train at threshold.</li> <li>Increases the body's ability to buffer lactic acid.</li> <li>Increases mental and physical ability to attain peak performance.</li> </ol>

*Periodization Schedule #2*  
**AEROBIC TRAINING - 3 weeks**

Heart Rate Zone	Workout Goal	Weeks	Benefits
65-80% Maximum Heart Rate	Endurance Class In the second portion of our Aerobic Training we will be going up to and including 80%. You don't want to go anaerobic, which is usually above 80%. You should always be able to carry on a conversation comfortably while exercising.	<ul style="list-style-type: none"> <li>• November 5-11- Endurance 65-80%</li> <li>• November 12-18 - Endurance or One Movement Class- Jump</li> </ul>	<ol style="list-style-type: none"> <li>1. Develops fat-burning system.</li> <li>2. Improves performance..</li> <li>3. Strengthens immune system.</li> <li>4. Reduces injuries.</li> <li>5. Increases energy.</li> <li>6. Increased mental focus.</li> <li>7. Boosts performance at a given heart rate.</li> </ol>

**STRENGTH TRAINING - 2 weeks**

*Strength training should be 2 -3 times per week in the Heart Rate Zone indicated. Any other training should in the Endurance Zone i.e. 65 – 75%of maximum heart rate.*

Heart Rate Zone	Workouts	Benefits
75-85% Maximum Heart Rate	<ul style="list-style-type: none"> <li>• November 19-25- : Strength Class- All Seated Climb or other strength variation.</li> <li>• November 26 – December 2: Strength Class- All Standing Climb Class</li> </ul>	<ol style="list-style-type: none"> <li>1. Improves cardiovascular strength.</li> <li>2. Enhances muscular endurance.</li> <li>3. Strengthens tendons and ligaments.</li> <li>4. Increases mental focus.</li> <li>5. Improves power/climbing ability.</li> </ol>

## ANAEROBIC TRAINING - 2 Weeks

*Anaerobic Training should be 1-2 times per week in the Heart rate Zones indicated. Any other training should be recovery, i.e. 50-65% of the maximum heart rate; or complete REST.*

Heart Rate Zone	Workouts	Benefits
85 -92% Maximum Heart Rate	<ul style="list-style-type: none"> <li>• December 3-9: Intervals – Sprint Repeat or other intervals.</li> <li>• December 10-16: Race Class</li> <li>• December 17-23: OPEN</li> </ul>	<ol style="list-style-type: none"> <li>1. Pushes fitness base to a new level.</li> <li>2. Improves anaerobic system.</li> <li>3. Increases ability to train at threshold.</li> <li>4. Increases the body’s ability to buffer lactic acid.</li> <li>5. Increases mental and physical ability to attain peak performance.</li> </ol>

## REST – 2 Weeks

*Only rest or Recovery Zone (50%-60%of maximum Heart Rate) activities for this week. Any activity should be in the heart rate zone indicated.*

Heart Rate Zone	Workouts	Benefits
50 - 60% Maximum Heart Rate	<ul style="list-style-type: none"> <li>• December 24-January 6th Recovery Week</li> </ul>	<ol style="list-style-type: none"> <li>1. Allow for mental and physical recovery.</li> <li>2. Aid in decreasing exercise compulsion/addiction.</li> <li>3. Enhances peak performance.</li> <li>4. Decreases athletic stress, fatigue and burnout.</li> <li>5. Increases time for family and friends.</li> </ol>