

**Stage5 Cycling Incorporated**  
23 Lowell Street Place  
Arlington, MA 02474



January 20, 2010

RE: **Hosting an Indoor Cycling Instructor Workshop**

Thank you for taking a moment to learn about our indoor cycling instructor workshop. Our goal is to make training accessible to health clubs and their instructors. This workshop is an excellent way to increase the expertise and image of your club by offering training that is setting the standard for cycling in the health and fitness industry.

I've included some information to give you an idea of the depth and level of expertise we provide:

**Benefits / Requirements**

**Sample 2-Day Format**

**Table of Contents from our Manual**

Please feel free to contact me directly at (781) 354-7520 if you have questions or would like further information.

We look forward to meeting you and working with your staff.

Tom Scotto  
CEO / Program Director

# Stage 5

CYCLING

## INDOOR CYCLING Instructor Workshop



### Real Cycling. Real Training. Real Results.

*Imagine a class where you are coaching riders through an actual outdoor cycling workout designed for the indoor studio. A workout YOU created. The music is synchronized and powerful. Each drill is clear and targets a specific area of training. Your riders know what they are doing and why. The workout is specific to the time of year to produce the maximum results. You've got your ride profile charted on the wall and your form and technique on the bike inspires the class. You are confident you will get your riders to their fitness, event or competition goal. You are the complete instructor.*

**The most comprehensive indoor cycling instructor training available:**

- 2 Days
- 14 Hours
- 6-8 Hours on the Bike
- Taught by a Certified Cycling Coach
- Cycling Anatomy / Kinesiology
- Bike Setup / Biomechanics
- Physiology & Heart Rate Thresholds
- Targeted Training & Program Design
- Presentation Skills
- Teaching Practical

## Health Club Proposal

### NO Cost for Hosting the Workshop

The club is **not charged** a fee to host a workshop. The cost of the workshop is included as part of the individual registration fees.

### Free Registrations Provided

The club is provided with 1 free registration for every 4 paid registrations. Your club's staff and instructors also receive a discount.

### How does this workshop benefit your club?

- Bring the most comprehensive indoor cycling instructor training to your club and drastically increase the quality of your indoor cycling classes and programs
- Train your instructors to teach real cycling classes that also appeal to outdoor cyclists and triathletes to increase your club's membership
- Inspire your instructors and get all of them on the same page with the latest in training techniques, bike setup, exercise physiology and program design
- Offer continuing education credits at your club. Up to an equivalent of 14 credit hours earned and accepted by many NCCA accredited fitness organizations (ACE, AFAA, NSCA, etc.)
- Drive traffic to your club by attracting other instructors and people from your area
- Your club's instructors received a discounted rate for the workshop
- Taught by a USA Cycling Elite Level Coach and Master Indoor Cycling Instructor
- We take care of everything including the online registration, phone registration, marketing and light refreshments

### Bonus

- **Offer Dynamic Master Classes to Your Club Members**  
During the 2-day workshop, 2 full 60-minute classes will be taught as practical instruction. Open these class times up to your club members as special events.

### Marketing / Advertising

- Your workshop event will be advertised on our website
- Your event will be included in our monthly newsletter and publicized through our partner, ICI Pro (IndoorCycleInstructor.com).
- We will design a custom 8.5" x 11" poster in PDF format to be printed (as a flyer) or emailed to your club's group fitness instructors and members.
- OPTIONAL: We can also create a larger 11"x17 poster (shipped to you) for display at your club.

**Stage5 Cycling Incorporated**

(800) 605-1791 Phone

(800) 344-1276 Fax

[www.stage5cycling.com](http://www.stage5cycling.com)



## Health Club Proposal

### Requirements

- **Indoor Cycling Studio** available during the times of the workshop
- **9 - 16 Indoor cycling bikes** in good working order  
(8 to 15 riders + 1 Instructor)
- **Sound System** with wireless headset microphone, CD player and hookup for iPod or MP3 device  
(mini stereo plug)
- **A minimum of 4-6 registered workshop participants**  
(minimum determined by location and travel costs)

**Instructor Registration: \$275.00** (Workbook Included) Group discounts and staff discounts provided.

Please visit our website at [www.stage5cycling.com/workshop](http://www.stage5cycling.com/workshop) for additional information.

# Indoor Cycling Instructor Workshop Format

Saturday		Sunday	
PREPARATION	BASE	BUILD	PEAK
<p><b>9:00 – 9:30 AM</b> <b>Welcome / Overview</b> Discuss the format of the workshop including an overview of periodization. Distribute additional handouts and forms.</p> <p><b>9:30 – 11:00 AM</b> <b>Bike Setup and Proper Form</b> Demonstrate the proper technique for positioning a rider on the indoor bike including use of various pedals and adapting for injury and comfort.</p> <p><b>11:00 – 12:00 AM</b> <b>Biomechanics Ride / Drills</b> This ride and drills will focus on developing more efficient leg speed and proper pedaling technique. Perfect for early season classes.</p> <p><b>12:00 – 1:00 PM</b> <b>Lunch Break</b></p>	<p><b>1:00 – 2:00 PM</b> <b>Physiology &amp; Finding Your Thresholds</b> Review the physiological adaptations within the body during a typical ride. Perform a 20-minute drill designed to identify your Anaerobic Threshold (80-85% RPE)</p> <p><b>2:00 – 2:30 PM</b> <b>Bike Setup Review</b> Continue to practice your ability to setup a rider properly on an indoor bike by setting up another member of workshop.</p> <p><b>2:30 – 3:30 PM</b> <b>Aerobic Training Ride / Drills</b> This ride and drills will focus on aerobic development and endurance.</p> <p><b>3:30 – 4:00 PM</b> <b>Break</b></p> <p><b>4:00 – 5:30 PM</b> <b>Practical Teaching</b> Each instructor will have an opportunity to practice teaching specific drills covered during the day's session. This will include cuing and presentation skills.</p> <p><b>HOMEWORK ASSIGNMENT</b> Design a 60-Minute ride profile based on speed and aerobic training. Include an option for a 45-minute class.</p>	<p><b>9:00 – 9:30 AM</b> <b>Homework Review</b> We will review and critique the assigned 60 and 45-minute ride profiles.</p> <p><b>9:30 – 10:30 AM</b> <b>Developing Power and Strength</b> Review methods for developing strength and power on the bike. This includes proper form and technique for maintaining safety during explosive efforts.</p> <p><b>10:30 – 11:30 AM</b> <b>Explosive Power Ride / Drills</b> This ride focuses on drills used for developing explosive power and muscular endurance.</p> <p><b>11:30 – 12:30 PM</b> <b>Lunch Break</b></p>	<p><b>12:30 – 1:30 PM</b> <b>Top Performance &amp; Recovery</b> Review peak conditioning workouts and proper use of intermediate recovery.</p> <p><b>1:30 – 2:00 PM</b> <b>Bike Setup Review</b> Continue to practice your ability to setup a rider properly on an indoor bike by setting up another member of workshop.</p> <p><b>2:00 – 3:30 PM</b> <b>Advanced Drills / Race Day</b> This ride will begin with a demonstration of advanced drills that develop aerobic capacity (VO2) and anaerobic endurance followed by a 20-minute race day effort.</p> <p><b>3:30 – 4:00 PM</b> <b>Break</b></p> <p><b>4:00 – 5:30 PM</b> <b>Practical Teaching &amp; Review</b> Each instructor will have an opportunity to practice teaching specific drills covered during the day's session. This will include cuing and presentation skills.</p> <p>We will review the main concepts and techniques and answer any remaining questions.</p>

## 2-Day / 14-Hour Workshop Includes:

- ▶ **6 - 8 Hours of On-the Bike Training. We recommend bringing 3 to 4 sets of cycling clothing for the weekend.**
- ▶ **You can bring your own music to teach with or we will provide music if needed.**



# Table of Contents

<b>Chapter 1: Anatomy and Kinesiology in Cycling</b>	<b>1</b>
Assumptions and Expectations	1
Movement in Cycling	1
Sagittal Plane	1
Frontal Plane	1
Transverse Plane	1
Points of Muscle Attachment	1
Lower Body	3
Glutes	3
Hip Flexors	3
Quadriceps	4
Hamstrings	5
Calves and Lower Leg	5
Upper Body	5
Trunk	6
Muscles at the Shoulder and Neck	6
Arms	7
Muscles of Breathing	7
The Role of Muscle Fiber Types in Cycling Mechanics, Power and Endurance	8
Slow Twitch (Type I)	8
Fast Twitch (Type II)	8
<b>Chapter 2: Biomechanics of Cycling</b>	<b>11</b>
You Must Teach Biomechanics	11
Levers and Joints	11
Classification of Levers	12
Types of Muscle Contractions	12
Concentric Contraction	12
Eccentric Contraction	12
Isometric Contraction	12
Passive Stretch	12
Types of Muscle Contractions in Cycling	12
Pedal Technique	13
Ankling	13
Reciprocal Inhibition	14
Engaging the Muscles of the Leg	14
Back of the Stroke	14
Top of the Stroke	14
The Downstroke	15
The Bottom of the Stroke	15
Proper Form and Alignment	16
Maintain a Relaxed Upper Body	16
Pelvic Tilt	17

# Table of Contents

<b>Chapter 3: Bike Fitting and Proper Form</b>	<b>19</b>
Understanding the Factors	19
Injuries	19
Flexibility and Mobility	19
Muscle Strength	19
Riding Style	19
Pedaling Style	19
Pedal and Cleat Adjustments	20
Cycling Shoes are Recommended	20
Proper Use of Toe Cages and Straps	20
Installing and Adjusting Cleats	21
Fore-aft Position	22
Cleat Rotation	22
Shims	22
Q-Factor	22
Incorrect Shoe Size	22
Aligning the Body	22
General Principles	22
Bike Types	22
ERR on the side of Caution	22
Knee Alignment	22
Seat Height	23
Limitation: Lack of Micro-Adjustment	24
Handlebar and Height	24
Proper Form	24
Hand Positions	26
Relax the Shoulders	26
Arms and Hands	26
Neutral Spine and Back	27
Relax the Stomach	27
Bouncing in the Saddle	28
Technique for Riding Out of the Saddle	28
Proper Form and Sprinting	29
Bike Fitting and Proper form is an Iterative Process	30
<b>Chapter 4: Physiology and Training Thresholds</b>	<b>33</b>
The Cardiovascular System	33
The Heart	33
The Pulmonary System	33
Blood Vessels	34
The Blood	35
Cardiac Output	36

# Table of Contents

<b>Chapter 4: Physiology and Training Thresholds (Cont.)</b>	
Dimmer Switch NOT a Toggle	36
The Body's Fuel Sources	36
ATP - The Body's Energy Currency	36
Fat	36
Carbohydrates	37
Protein	37
Creatine Phosphate (CP)	37
The Energy Systems	37
Aerobic Energy	37
Anaerobic Energy	38
What Happens Inside the Body During a Workout	38
The Warm-up	38
Exercise begins Anaerobically	38
Exercising and Different Intensities	39
Cool-down	39
Stretching	39
Training Thresholds	39
Aerobic Threshold (AeT) Determining the Recovery Threshold	40
Anaerobic Threshold (AT)	40
Lactate Threshold vs. Anaerobic Threshold	41
VO <sub>2</sub> max	41
Target Training Zones	41
Rate of Perceived Exertion (RPE)	41
RPE and Training Thresholds	41
Percentage of Maximum Heart Rate	42
What is My Maximum Heart Rate?	42
Calculating MHR Can Be Inaccurate	42
Maximum Heart Rate Does Not Indicate Physiological Thresholds	42
Karvonen Formula	42
Lactate / Anaerobic Threshold	43
Application to the Indoor Studio	44
<b>Chapter 5: Periodization and Targeted Training</b>	<b>47</b>
An Overview of Periodization	47
General to Specific	47
Using Periodization to Structure Individual Workouts	48
Preparation Period	48
Base Period	48
Build Period	48
Peak Period	49
Race Period	49

# Table of Contents

<b>Chapter 5: Periodization and Target Training (Cont.)</b>	
Transition Period	49
Safety and Your Audience	49
<b>Chapter 6: Indoor Program Design</b>	<b>51</b>
Train with a Purpose	51
Target Training Zones	51
Rate of Perceived Exertion	51
Structuring the Workout	52
The Warm-Up	52
Setup and Hit the Target	53
Recovery	53
A New Concept: Recovery Makes the Workout Harder	53
Cool-down and Stretching	54
Safety	54
Adapting Cycling Workouts for Indoor Classes	54
Cycling-Specific Movements ONLY	54
Contraindications	55
Working with Cadence	55
The Body's Response to Cadence	56
Using Music as a Tool	56
Speed, Intensity and Length	56
Charts	57
Targeted Workouts	58
Force vs. Power	59
Building the Ride Profile	60
Step 1: What is the focus of the Training?	60
Step 2: Specific Training Drills	60
Step 3: Intermediate Recovery	60
Step 4: Warm-Up and Cool-down	60
Step 5: Cadence and Music Selection	60
Step 6: Cue Sheet and Chart	60
Training Drills	62
Aerobic Development and Endurance	62
Biomechanics and Leg Speed	63
Muscular Endurance and Climbing	64
Explosive Power / Sprinting	64
Intervals	66
Threshold Training and Aerobic Capacity	66
Anaerobic Capacity	67
Race Days	67
Cue Sheet and Chart Symbols	68
Custom Charts and Symbols	68

# Table of Contents

<b>Chapter 6: Indoor Program Design (Cont.)</b>	
Sample Ride Cue Sheet (Testing)	68
Cue Sheets	69
Summary	71
<b>Chapter 7: Presentation Skills</b>	<b>73</b>
Pulling it all Together	73
Professional Image	73
Suggested Tools	73
Setup - Create an Environment	74
Introduction and Warm-up	74
Explaining Intensity and RPE	75
Teaching off the Bike	76
Cues and Verbal Instruction	76
Visualization	77
Charts	77
Performing a Cadence Check	78
Proper Form and Staying Hydrated	78
Cool-down and Stretching	78
Communication	78
Positive Reinforcement	78
Intermediate and Long-term Goals	79
Share Your Experiences	79
Look Riders in the Eye	79
Take a Pulse	79
Physical Contact	79
Controlling the Environment	79
Lights	79
Temperature	79
Dealing with the Sound System	80
CDs and MP3s	80
Batteries	80
Headsets	80
Music vs. Instructor	80
<b>Chapter 8: Safety Guidelines</b>	<b>83 - 84</b>
<b>Appendix</b>	
Chart: Periodization Training Model	A
Chart: Periodization - General to Specific	B
Chart: Training Thresholds	C
Chart: Rate of Perceived Exertion (RPE)	D
Chart: Threshold Training Zones	E

# Table of Contents

## Appendix (Cont.)

Chart: Sample Ride Profile	F
Chart: Sample Race Day Profile	G
Recommended Clothing and Equipment	H
Basic Stretches	I - K
Nutrition Guidelines for Exercise	L - M
Sample Ride Cue Sheet - Aerobic Development	N
Sample Ride Cue Sheet - Speed / Biomechanics	O
Sample Ride Cue Sheet - Muscular Endurance	P
Sample Ride Cue Sheet - Climbing	Q
Sample Ride Cue Sheet - Explosive Power	R
Sample Race Cue Sheet - Circuit Race	S
Suggested Bike Setup Procedure	T
Instructor Evaluation Form	U - X