

# ***400m to 5K***

*developing range in  
distance runners*

**Jesse Coy- Rapid City Stevens HS**



# ***JESSE COY***

***RunninRaiders.com/clinic***

***CoachingDistance.com***

***TheMilersClub.com***

## ***Related Education***

- **USATF Level 1+**
  - *www.usatf.org*
- **USTFCCA Technical Certification**
  - *www.ustfccca.org*
- **ALTIS Essentials & Endurance**
  - *www.altis.world*

- 1. Try to Sell You on Range**
- 2. Training Tools**
- 3. Putting it all Together**

**1st....a snap-shot into our  
distance program.**

*(for better or worse....the rest is all  
about training)*



**STRENGTH**

***Why Range?***

# ***Multiple Events***

**200m:** 23.2

**400m:** 50.5

**800m:** 1:54.83

**1600m:** 4:24.04

**XC:** Top 3 @ State

- **S.D. Record/ NAIA Champion 1,000m**
- **2x National XC Meet**



# ***Improve Limiting Factors***

**400m:** 1:03s

**800m:** 2:20.84/ 2:18s

**1600m:** 5:03.42

**3200m:** 10:42.6

**XC:** 17:45 5k/ 30th @ NXN

- **World Champion Triathlete**





# ***Saves Specificity for Later***

**400m: 51s**

**800m: 1:55.1**

**1600m: 4:23.95**

**3200m: 9:40.70**

**XC: Top 3 @ State**

- **2x NCAA D1 XC Qualifier**
- **2020 Olympic Trials Marathon**



# ***Optimal for Improvement***

**400m:** 59.79 (~65s 9th grade)

**800m:** 2:15.74 (2:26- 9th grade)

**1600m:** 4:58.27 (5:40- 9th grade)

**3200m:** 11:19.37 (12:39- 9th Grade)

**XC:** Top 3 @ State

- **4:28.37 (1500m)**
- **2:09.37 (800m)**
- **NAIA All-American 800m**



# ***Variety is Fun***

**400m: 51s**

**800m: 1:56.43**

**1600m: 4:19.70**

**3200m: 9:29.57**

**XC: Top 3 @ State**

- **NCAA D1 All-American**
- **4:01 Mile**



# ***Training Tools***

# **#1: Biomotor Skill Development**

- 1. Endurance**
- 2. Speed**
- 3. Strength**
- 4. Coordination**
- 5. Mobility/Flexibility**

## #2: Multi-Pace Training

- **Frank Horwill's 5-Pace Theory**



**5k.....400m**

<i>Endurance/Rec Runs &amp; Lactate Threshold / Tempo</i>				
<b>5k</b>	<b>3200m</b>	<b>1600m</b>	<b>800m</b>	<b>400m</b>
<i>Max Speed, Strength Training, Mobility/Flexibility, Drills</i>				



# TRAINING CHART

*What do all  
of these  
training  
pace look  
like?*

Reference Point Training					Endurance Range		Tempo Runs	Lactate Threshold			5k XC			3200m			1600m				800m			
20m	1600m	3200m	5k XC	LEVEL	Mile	Mile	1600m	1600m	1k	400m	1600m	1k	400m	1600m	1k	400m	600m	400m	300m	200m	400m	300m	200m	150m
55	6:31	14:06	23:26	1	10:30	9:30	8:10	7:30	4:41	1:52	7:30	4:41	1:52	7:03	4:24	1:45	2:26	1:37	1:13	0:48	1:27	1:05	0:43	0:30
53	6:27	13:57	23:10	2	10:25	9:25	8:05	7:45	4:50	1:56	7:25	4:38	1:51	6:58	4:21	1:44	2:25	1:36	1:12	0:48	1:26	1:04	0:43	0:30
51	6:22	13:47	22:55	3	10:20	9:20	8:00	7:40	4:47	1:55	7:20	4:35	1:50	6:53	4:18	1:43	2:23	1:35	1:11	0:47	1:25	1:04	0:42	0:30
49	6:18	13:38	22:39	4	10:15	9:15	7:55	7:35	4:44	1:53	7:15	4:31	1:48	6:49	4:15	1:42	2:21	1:34	1:10	0:47	1:24	1:03	0:42	0:30
47	6:14	13:28	22:23	5	10:10	9:10	7:50	7:30	4:41	1:52	7:10	4:28	1:47	6:44	4:12	1:41	2:20	1:33	1:10	0:46	1:23	1:02	0:41	0:30
45	6:09	13:19	22:08	6	10:05	9:05	7:45	7:25	4:38	1:51	7:05	4:25	1:46	6:39	4:09	1:39	2:18	1:32	1:09	0:46	1:22	1:02	0:41	0:30
43	6:05	13:10	21:52	7	10:00	9:00	7:40	7:20	4:35	1:50	7:00	4:22	1:45	6:35	4:06	1:38	2:17	1:31	1:08	0:45	1:21	1:01	0:40	0:30
41	6:01	13:00	21:36	8	9:55	8:55	7:35	7:15	4:31	1:48	6:55	4:19	1:43	6:30	4:03	1:37	2:15	1:30	1:07	0:45	1:20	1:00	0:40	0:30
39	5:56	12:51	21:21	9	9:50	8:50	7:30	7:10	4:28	1:47	6:50	4:16	1:42	6:25	4:01	1:36	2:13	1:29	1:06	0:44	1:19	0:59	0:39	0:28
37	5:52	12:41	21:05	10	9:45	8:45	7:25	7:05	4:25	1:46	6:45	4:13	1:41	6:20	3:58	1:35	2:12	1:28	1:06	0:44	1:18	0:59	0:39	0:28
35	5:48	12:32	20:50	11	9:40	8:40	7:20	7:00	4:22	1:45	6:40	4:10	1:40	6:16	3:55	1:34	2:10	1:27	1:05	0:43	1:17	0:58	0:38	0:28
33	5:43	12:23	20:34	12	9:35	8:35	7:15	6:55	4:19	1:43	6:35	4:06	1:38	6:11	3:52	1:32	2:08	1:25	1:04	0:42	1:16	0:57	0:38	0:28
31	5:39	12:13	20:18	13	9:30	8:30	7:10	6:50	4:16	1:42	6:30	4:03	1:37	6:06	3:49	1:31	2:07	1:24	1:03	0:42	1:15	0:56	0:37	0:28
29	5:34	12:04	20:03	14	9:25	8:25	7:05	6:45	4:13	1:41	6:25	4:00	1:36	6:02	3:46	1:30	2:05	1:23	1:02	0:41	1:14	0:56	0:37	0:28
27	5:30	11:54	19:47	15	9:20	8:20	7:00	6:40	4:10	1:40	6:20	3:57	1:35	5:57	3:43	1:29	2:03	1:22	1:01	0:41	1:13	0:55	0:36	0:28
26	5:26	11:45	19:31	16	9:15	8:15	6:55	6:35	4:06	1:38	6:15	3:54	1:33	5:52	3:40	1:28	2:02	1:21	1:01	0:40	1:13	0:54	0:36	0:28
24	5:21	11:36	19:16	17	9:10	8:10	6:50	6:30	4:03	1:37	6:10	3:51	1:32	5:48	3:37	1:27	2:00	1:20	1:00	0:40	1:12	0:54	0:36	0:28
22	5:17	11:26	19:00	18	9:05	8:05	6:45	6:25	4:00	1:36	6:05	3:48	1:31	5:43	3:34	1:25	1:59	1:19	0:59	0:39	1:11	0:53	0:35	0:28
20	5:13	11:17	18:45	19	9:00	8:00	6:40	6:20	3:57	1:35	6:00	3:45	1:30	5:38	3:31	1:24	1:57	1:18	0:58	0:39	1:10	0:52	0:35	0:28
18	5:08	11:07	18:29	20	8:55	7:55	6:35	6:15	3:54	1:33	5:55	3:41	1:28	5:33	3:28	1:23	1:55	1:17	0:57	0:38	1:09	0:51	0:34	0:28
16	5:04	10:58	18:13	21	8:50	7:50	6:30	6:10	3:51	1:32	5:50	3:38	1:27	5:29	3:25	1:22	1:54	1:16	0:57	0:38	1:08	0:51	0:34	0:28
14	5:00	10:48	17:58	22	8:45	7:45	6:25	6:05	3:48	1:31	5:45	3:35	1:26	5:24	3:22	1:21	1:52	1:15	0:56	0:37	1:07	0:50	0:33	0:28
12	4:55	10:39	17:42	23	8:40	7:40	6:20	6:00	3:45	1:30	5:40	3:32	1:25	5:19	3:19	1:19	1:50	1:13	0:55	0:36	1:06	0:49	0:33	0:28
10	4:51	10:30	17:26	24	8:35	7:35	6:15	5:55	3:41	1:28	5:35	3:29	1:23	5:15	3:16	1:18	1:49	1:12	0:54	0:36	1:05	0:48	0:32	0:28
08	4:47	10:20	17:11	25	8:30	7:30	6:10	5:50	3:38	1:27	5:30	3:26	1:22	5:10	3:13	1:17	1:47	1:11	0:53	0:35	1:04	0:48	0:32	0:28
06	4:42	10:11	16:55	26	8:25	7:25	6:05	5:45	3:35	1:26	5:25	3:23	1:21	5:05	3:11	1:16	1:46	1:10	0:53	0:35	1:03	0:47	0:31	0:28
04	4:38	10:01	16:40	27	8:20	7:20	6:00	5:40	3:32	1:25	5:20	3:20	1:20	5:00	3:08	1:15	1:44	1:09	0:52	0:34	1:02	0:46	0:31	0:28
02	4:34	9:52	16:24	28	8:15	7:15	5:55	5:35	3:29	1:23	5:15	3:16	1:18	4:56	3:05	1:14	1:42	1:08	0:51	0:34	1:01	0:45	0:30	0:28
00	4:29	9:43	16:08	29	8:10	7:10	5:50	5:30	3:26	1:22	5:10	3:13	1:17	4:51	3:02	1:12	1:41	1:07	0:50	0:33	1:00	0:45	0:30	0:28
58	4:25	9:33	15:53	30	8:05	7:05	5:45	5:25	3:23	1:21	5:05	3:10	1:16	4:46	2:59	1:11	1:39	1:06	0:49	0:33	0:59	0:44	0:29	0:28
56	4:21	9:24	15:37	31	8:00	7:00	5:40	5:20	3:20	1:20	5:00	3:07	1:15	4:42	2:56	1:10	1:37	1:05	0:48	0:32	0:58	0:43	0:29	0:28
54	4:16	9:14	15:21	32	7:55	6:55	5:35	5:15	3:16	1:18	4:55	3:04	1:13	4:37	2:53	1:09	1:36	1:04	0:48	0:32	0:57	0:43	0:28	0:28
52	4:12	9:05	15:06	33	7:50	6:50	5:30	5:10	3:13	1:17	4:50	3:01	1:12	4:32	2:50	1:08	1:34	1:03	0:47	0:31	0:56	0:42	0:28	0:28
50	4:07	8:56	14:50	34	7:45	6:45	5:25	5:05	3:10	1:16	4:45	2:58	1:11	4:28	2:47	1:07	1:32	1:01	0:46	0:31	0:55	0:41	0:27	0:28



# ***Shortcut for Intensities: 20s RULE***

**1600m- 4:40**

**3200m- 5:00 (10:00)**

**5k- 5:20 (16:40)**

**LT- 5:40**

**Tempo- 6:00**

# ***Programming***

**Everyone knows the ingredients, but no one has the perfect recipe for every athlete....**



# How do we fit all this in?

## ■ **Biomotor Skills**

- Endurance, Speed, Strength, Coordination, Flexibility/Mobility

## ■ **Multi-Pace Training**

- Max Speed to Recovery Jogging

# Periodize the Season

*4-6 weeks & then change something*



# Organizing the Week

<b>MON</b>	<b>Endurance Run + Max Speed</b>	<b>Strength Training</b>
<b>TUES</b>	<b>Long Intervals + 3200-800 pace</b>	<b>Core &amp; Plyo</b>
<b>WED</b>	<b>Recovery Run</b>	<b>Rope Stretch</b>
<b>THUR</b>	<b>Endurance Run + 400m Speed</b>	<b>Strength Training</b>
<b>FRI</b>	<b>Tempo + 3200-800 pace</b>	<b>Core &amp; Plyo</b>
<b>SAT</b>	<b>Long Run</b>	<b>Rope Stretch</b>
<b>SUN</b>	<b>Off</b>	<b>Off</b>

# MONDAY

## AM: Strength Training

- Lifting like throwers
- Max Strength, ie. 3 sets of 4-8 reps/ 4-5 lifts
- **Great Resource:** *Functional Training for Athletes* (James Radcliffe)

## PM: Endurance Run + Hill Sprints @ Max Speed

- Lunge Matrix & Leg Swings
- 35-40-45-50' in the Endurance Range
- 4-6x8s Hill Sprints @ Max Speed

**Prep  
5 Weeks**

**Build Endurance Runs to....  
Fr: 35' So: 40' Jr: 45' Sr: 50'**

**Pre-Comp  
5 Weeks**

**Maintain....  
Fr: 35' So: 40' Jr: 45' Sr: 50'**

**Pre-Comp  
5 Weeks**

**Maintain.... (Peak race...add 2x Pre-meet days)  
Fr: 35' So: 40' Jr: 45' Sr: 50'**



# TUESDAY

## **Long Intervals, always starting at LT Pace**

1. Lunge Matrix & Leg Swings
2. 20' Easy Running
3. Sprint Drills
4. Long Intervals w/ short rest (don't need a track)
5. Race Speeds
6. 10' Recovery Running
7. Core & Plyo Circuit

# Rules for Long Intervals

## 1. “LT” Lactate Threshold

- a. 3:1 work to rest ratio
- b. 20-25' of work

## 2. 5k XC Pace (~CV)

- a. 3:2 work to rest ratio
- b. 15-20' of work

## 3. 3200 Pace (VO2)

- a. 3:3 work to rest ratio
- b. 10-15' of work

**Prep  
5 Weeks**

**Fartlek Workouts @ LT effort/pace**

- 1.) 5x (4:1) @ LT effort/Jog
- 2.) 4-6x 20-30s @ 3200-800 efforts

**Pre-Comp  
5 Weeks**

**800-1mi @ LT Paces down to 5k**

- 1.) 4x1000 @ LT > 5k
- 2.) 3-4x300 @ 3200-800 pace (balanced)

**Pre-Comp  
5 Weeks**

**800-1mi @ LT Paces down to 5k**

- 1.) 2-3x1000 @ LT > 5k
- 2.) Race Pace skewed towards goal races.

# WEDNESDAY

## **Recovery Running**

1. Lunge Matrix & Leg Swings
2. 35-40-45-50' @ slow end of pace range
3. Rope Stretch

**Prep  
5 Weeks**

**Build Recovery Runs to....  
Fr: 35' So: 40' Jr: 45' Sr: 50'**

**Pre-Comp  
5 Weeks**

**Maintain Recovery Runs to....  
Fr: 35' So: 40' Jr: 45' Sr: 50'**

**Pre-Comp  
5 Weeks**

**Monitor Recovery Runs to remain EASY  
Fr: 35' So: 40' Jr: 45' Sr: 50'**

# THURSDAY

## **Endurance Run + Speed Endurance & Strength**

- Lunge Matrix & Leg Swings
- 35-40-45-50'
- Oregon Circuits (football field)
  - 4x80-120m @ 400m effort (length)
  - Strength Cone @ each corner
  - Walk the width

**Prep  
5 Weeks**

**Too snowy for track circuits, so do the exercises in isolation. Add 4x60-80m @ 400 effort @ the end of this run. Could be hills.**

**Pre-Comp  
5 Weeks**

**Oregon Circuits w/ 80-120m sprints. Might do these on pre-meet days at times or add SAM & a 4x400 if possible.**

**Pre-Comp  
5 Weeks**

**Incorporate these into post-race routines if we can't do a 4x400.  
Ie. SAM + 4x100m**

# FRIDAY

## **Tempo Run + 3200-800 Speeds**

1. Lunge Matrix & Leg Swings
2. Tempo Run or Kenyan Tempo
3. Sprint Drills
4. 3200-800m pace work
5. 10' Recovery Running
6. Myrtl Routine or SAM or Core & Plyo Routine



**Prep  
5 Weeks**

1. **20-30' Tempo Run**
2. **4-6x 20-30s @ 3200-800 effort**

**Pre-Comp  
5 Weeks**

1. **Kenyan Tempo (10-15 "out"/ faster back)**
2. **4x (400-300-200) @ 3200-1600-800 pace**

**Pre-Comp  
5 Weeks**

1. **Race (1-2 races)**
2. **Cool-Down w/ Kenyan Tempo & 80-120's**

# RACING

- **2 easy days before every race**
- **1-2 races per meet**
- **Warm-Up: First Race**
  - 13' Easy + 2' Steady
  - Sprint Drills
  - 3x50m (easy, medium, hard)
  - *Second Race (½ of everything)*

# “Peaking”

**Just tweak 1-2 dials & nothing new the last 2 weeks....**

1. Volume
2. Intensity
3. Density

# RACING: Pre-Competition Phase

- **Only doing 1 workout that week typically**
- **Don't want to miss aerobic development, so...**
- **2 Races + Kenyan Tempo Run or Fartlek + 4x80-120m**
  - Kenyan Tempo
    - 10' Easy, then "Tempo" back
    - 4x80m @ 800/400
  - LT Fartlek
    - 4-3-2-1 w/ = 1' rec jogs
    - 4x80m @ 800/400
- **SAM or Myrtl**

# **RACING: Mapping out a Season**

**How Many Races to Reach Full “Form” each Season?**

**800m: 4-5**

**1600m: 3-4**

**3200m: 2-3**

# SATURDAY

## **Long Run**

1. Lunge Matrix & Leg Swings
2. 65-70-75-80'
3. Rope Stretch

**Every team  
needs “a run”**

# **VICTORIA LAKE ROAD**



**Prep  
5 Weeks**

**Build Long Runs to....  
Fr: 65' So: 70' Jr: 75' Sr: 80'**

**Pre-Comp  
5 Weeks**

**Maintain Long Runs....  
Fr: 65' So: 70' Jr: 75' Sr: 80'**

**Pre-Comp  
5 Weeks**

**Maintain Long Runs when you can**

- Scrap it the week heading into State

**Fr: 65' So: 70' Jr: 75' Sr: 80'**



# Many ways to get this done...think about:

## ■ **Biomotor Skills**

- Endurance, Speed, Strength, Coordination, Flexibility/Mobility

## ■ **Multi-Pace Training**

- Max Speed to Recovery Jogging

# Thanks!

## **Any questions?**

You can find me at

- @coachdistance (Twitter)
- coachjessecoy@gmail.com