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Great VCU Bike Race Book

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Bike Athlete Performance

R. Lee Franco

Virginia Commonwealth University, francorl@vcu.edu



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UNCATEGORIZED

The Week Richmond Hosted the Worlds: a post-race reflection of cobblestones and history

I had the unique opportunity in providing information to students here at VCU of sports performance, primarily the impact of nutrition, and cycling. This course coincided with a race in which the top cyclists in the world sped through the heart of campus in a quest to wear the coveted rainbow jersey. In only the second visit to the United States, the UCI Road World Championships had a city best known for its history, in the wide-eyed glare of GIs to Millennials living in the moment!

Below is an interview that we had completed on professional cyclist Christian Vande Velde, who had recently retired as a competitive athlete and worked as a TV analyst during the championships in Richmond.

VCU Exercise Science: Christian Vande Velde Interview



The one-credit course was titled **UNIV 291: Bike Athlete Performance**, and incorporated different assignments that allowed students to give thought in how important proper nutrition was in preparing oneself for an intense bout of exercise. Although food today is most often discussed in terms of Yelp! ratings and James Beard Award winning chefs, it's content is critical in providing power to an athlete who is exercising for more than an hour. Presentation the least of one's concerns. Does it provide the right mix of fuel.

As you can see below, Janet Rankin, professor at Virginia Tech University and past president of the American College of Sports Medicine, gave a great interview regarding the impact of nutrition on performance, discussing the needs for both an elite athlete and weekend warrior.

VCU Exercise Science - Sports Nutritionist Dr Janet Rankin...



The first two assignments surrounded the topic of thermoregulation. Anyone visiting Richmond in late September can attest to the residual summer heat that fights to stick around as long as possible. We discussed how an athlete maintains a core body temperature without overheating and how sweat evaporation becomes our best mechanism in doing so.

☞ *Most importantly, each mL of sweat that evaporates can transfer 0.58 kcals of heat energy from the body to the environment.*

But with sweat, we also become dehydrated and lose vital electrolytes. Athletes understand it's near impossible to replenish all of our sweat loss during an event, and even with their keen attention to detail, will most likely only replenish 80% of their fluid.

☞ *each Liter of sweat does release a small percentage of electrolytes, primarily consisting of sodium and chloride. Each Liter of sweat has 2,600 mg of sodium and 1,100 mg of chloride.*

Each student was given a scenario to determine how much sweat evaporation would be required to maintain a core temperature in a heated environment. And how much sodium chloride would need to be replenished. With this information, they were instructed to tag a picture on social media of their favorite sports drink that would be beneficial in this scenario, both replenishing fluid and electrolytes. As expected, the drink of choice was Gatorade. It's interesting this was the choice of so many students. With the vast options available and some better than others, it's clear the power of advertising.

The third assignment had students reflect on their nutrition habits prior to an exercise bout. While the lecture focused on the consumption of carbohydrates as far as 4 hours before exercise, it was interesting to hear the students tell of their own practice after being instructed of recommendations.

Students often admitted that their choices may not have been best, but it was great to hear that they had acknowledged the impact this may have had on their performance.

☞ *The food consumption did not really help me but I had been used to the diet, so I was used to wrestling with very little carbs in my system at a high intensity.*

When i don't do this eating regime and still workout, i feel weak at the gym.

My coaches were concerned and asked what I had ate that day. I had only consumed a lunch of a sandwich, pretzels, and water. One of them nervously laughed and asked someone to

get me snacks and a sports drink, as I lay in the grass. I now know that I was dehydrated, improperly nourished for competition, as well as an iron-deficient anemic.

Interestingly, the class consisted of both students who had not given much thought to nutrition for exercise and those who abide by a strict regime.

☞ *The morning of the race I usually get up 3-4 hours before start time to prepare for the starting line and to eat something (usually a clif bar or high carb meal bar like that). I eat that early to ensure some kind of digestion before the race even begins, and to hopefully minimize an insulin spike.*

During the fourth assignment, students were given the opportunity to describe what would be in their musette bag DURING a 5 hour cycling ride. This followed a lecture that described how much food was required, as well as how our food would be available due to hormonal responses during exercise. Below are a few of the responses. As you'll notice, some students couldn't resist playing the role during their presentation, but what was most enjoyed was the creativity displayed by our students.

Fuel for a 5 Hour Ride



Assignment 3: My Musette - Charlie Perris



Sofia Nersessova - Assignment 4 - Bike Athlete Performan...



Overall, I think while it was locally advertised that the “Worlds were coming to Richmond” for months before the UCI World Road Championships, it wasn’t until the Sunday evening following the last race that people began to say “Richmond introduced itself to the World”. I believe the students at VCU were given a unique opportunity which was only enhanced within this opportunity provided by the VCU ALT lab in taking a 1-credit course that allowed both students and faculty to feel as though they were part of the race. Our students were left with an opportunity to hear from one of the top American female cyclists at the races, Evie Stevens, as she graciously sat with us to discuss the impact of Sports Science on cycling.

VCU Exercise Science: Professional Cyclist Evie Stevens In...



I hope our students and fellow Richmonders enjoyed the event as much as I did and I hope those within the UNIV 291 courses were able to watch the races with a deeper appreciation of not only cycling, but knowledge of the commitment these athletes show in becoming the best in the World.

 **BOOSTPERFORMANCE**

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