

Senior Project Internship Proposal

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I. Title of Project: Becoming Ironman

II. Statement of Purpose:

How does an Ironman affect the mental and physical state of an athlete? What does it take to complete an Ironman triathlon? What challenges and fears do you face when training for one? By training for and competing in Ironman Texas, I seek to find the answer to these questions by keeping track of my mental and physical state throughout the course of my training.

III. Background:

For the last year I have been obsessed with triathlons. In August of 2022 I went to volunteer at the mountain man 70.3 triathlon for the cross-country team. We supported athletes by cheering them on and providing help at the finish line. What I saw in these athletes was success.

At the end of the race when we were packing up all the supplies, I said to my friend that next year we will complete this race. I started training for it in January. Every week we would do countless hours of swimming, biking, and running all to be able to finish the 1.2-mile swim, 56-mile bike, and a 13.1-mile run.

Six months of training pass in the blink of an eye. We are standing on the start line ready to push ourselves to the limit to finish this long race. The swim was easy, the training paid off. The bike started rough with a flat tire, which I quickly recovered from. Then with only the run left I ran fast completing the half Ironman in 6 hours and got first place within my age group.

I now look to an even bigger challenge. Double the training, double the distance, and double the pain. A full Ironman is in my sights, and I will complete it.

IV. Focus and Responsibilities:

The focus of this project is to complete an Ironman triathlon. To do this, hours upon hours must be spent in the pool, on the bike, and on the roads and trails of Flagstaff. To succeed in such a demanding and rigorous training plan, determination is key. My responsibilities are to keep myself accountable and

most importantly enjoy the journey. Because what is the point of doing anything if you don't enjoy it? Completing this insane feat of athletic endurance will not be easy but I know that only success lies ahead.

V. Performance Factors and Measures of Success:

There are many performance factors in a triathlon, because of three unique sports inside one. Performance is measured in your ability to do all three. If you can bike and run faster than anyone else, but drown in the water, you will not have completed the Ironman any more than someone who was unable to do any of the three disciplines.

Because an Ironman is considered the most grueling one day race in all athletics, very few people take on the challenge. So, success in completing an Ironman is just that, to complete it. Finishing the race under 17 hours is what it takes to successfully complete an Ironman race before the cutoff time. However, I would like to complete the Ironman in under 12 hours. That would consist of a sub one hour and fifteen-minute swim, six hour and fifteen-minute bike, and completing the marathon in under four and a half hours.

VI. Academic and Professional Interests:

College is a big leap from high school. We must make all of our own decisions, we have to keep ourselves accountable, and we have to figure out what we want to do with our lives. Training and completing an Ironman will add to my academic interests and strengthen my determination to succeed. I often find that when we do something that seems out of reach, it makes other things that we thought were just as difficult seem less daunting. College with the new and exciting challenges will not seem as big of a leap after I become an Ironman.

Completing an Ironman will also benefit my professional interests in the future. My goal is to become a business owner. Creating a successful business, however, is a difficult endeavor. One out of five businesses fail within the first year, and seven out of ten businesses fail within the decade. When you fail in business, or in anything in life, it is important to not give up. If you stop after a single try you will almost certainly not obtain the outcome you want. If you try again and again, you will always achieve your goal. By completing an Ironman, I will gain more resilience and determination in the face of challenges, I will gain a mindset that believes in the possibility of things that at first may seem impossible, and I will gain healthy habits to sustain an active lifestyle that lasts my whole life. These lessons are invaluable tools to succeed in any professional field, especially in business.

VII. Review of Literature:

There are many components that go into training and completing an Ironman. To complete the race without struggling from the start, every component of Ironman training must be met. This includes everything from nutrition and exercise to building mental and physical strength.

Nutrition is arguably the most difficult yet important part of any sport or lifestyle. When training for an Ironman the importance of nutrition is highlighted even more. Going on four-hour long bike rides and burning upwards of 3500 calories a day requires the athlete to eat a lot and even more importantly to eat right. A bad diet along with too high of training load will lead to a decline in both health and fitness. One case study done by Maffetone and Laursen (2017) analyzed the nutrition in endurance multisport athletes. They wanted to find what composition of carbohydrates and fat have the biggest positive impact on both health and fitness. What they found to be most beneficial, contrary to most nutrition advice, is a low carbohydrate high fat diet or LCHF. This paired with a reduction in training load allowed the athletes to get faster times when running, higher wattage output on the bike, and faster recovery times when injured. Another benefit that came with a LCHF diet was lower calorie need when training. They found that athletes who adopted this diet were able to go on long bike rides and runs while consuming nothing but water. So, although carbohydrates are a crucial part of a diet when training for an Ironman, fat intake may be even more so.

Nutrition during the Ironman race is just as important as the nutrition during the training. Anna Robins (2007) in her nutritional recommendations for and Ironman has much of the same emphasis on fat intake. Lambert et al (2001) showed in a study that high fat consumption 10 days prior to the race increases performance. Robins also explains how 8,000-11,000 calories can be burned during an Ironman triathlon, and the average consumption is around 3000 calories. So, it is important to be able to have fat stores before the race to have sustained energy for its duration. Another important nutritional factor during an Ironman is hydration. It is important to stay hydrated throughout the race, however, Robins points out that hyperhydration is common in ultra endurance athletes due to the extended nature of the race. To complete an Ironman successfully proper nutrition should be considered when training for and competing in the race.

The most obvious factor that goes into the performance of an Ironman is the exercise involved during the months leading up to the race. However, what many triathletes forget about during their training is strength conditioning.

According to Luckin et al (2021), in their investigation on strength training in triathletes, only 55.7-63.3% of long-distance triathletes incorporate strength into their training regimen. To see why strength training is not present more often they conducted a study with 390 participants who have all completed at least one long distance triathlon. Through the study they found that the main cause for not including strength training was lack of knowledge on proper form. This is important because many athletes when training for a triathlon are missing out on the benefits of weights. According to Beattie et al (2014) including strength resistance workouts in your training for an endurance race can increase your economy, power, and speed.

Lastly the mental strength of an athlete is crucial for performance in such a difficult endurance race. Karine Grand'Maison in the Journal of Excellence (2004) talks about the mental skills that Ironman triathletes need to successfully complete their goals. In her survey of Ironman triathletes, one thing she focused on is the motivation to participate in such a grueling sport. The majority of people said it was to "push their limits and continually improve both their physical and mental conditions" while others said, "to enjoy an active lifestyle." In her survey she found that the biggest challenge for athletes aiming to complete an Ironman is keeping this motivation throughout the process and during the race. There are new challenges every day when training for an Ironman. One day you might feel tired from school or work, another you might hurt your foot and not be able to run, and another you might feel like the goal you have set is impossible. Completing an Ironman is more than just finishing the race, it is the months of training that goes into it before hand, and the struggles that you face, but more importantly how you work past those challenges, stay motivated throughout, and enjoy all the hours you are putting in.

In conclusion, there are many things to stay on top of when training for and competing in an Ironman triathlon. You must be focused on quality nutrition to make sure you are making up for the thousands of calories you burn when training. Strength workouts need to be a prevalent part of training not only to improve endurance and economy, but to prevent injuries. And lastly, you must have drive and a reason to complete an Ironman, otherwise motivation to train and race will be lost. Most importantly you must keep it fun and enjoy the road to becoming an Ironman.

VIII. Bibliography:

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