The Science and Culture of Martial Arts

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Natural Sciences
Biology
Describe your proposed field of study. Which academic disciplines does it cross over?

In my interdisciplinary field of study “The Science and Culture of Martial Arts,” I will combine studies from kinesiology, physics, and philosophy to study the physical, mental, and cultural aspects of martial arts. Although there are many variants, I am only concerned with traditional Asian martial arts. All ancient martial arts share common characteristics: they originated in eastern Asia, and each were designed or soon adapted as a system of self-defense, to promote physical health, and to enhance spiritual development. They have been used as early as the 1st millennium B.C. and each places a premium on personal discipline.

Today in the United States, one of the fastest growing martial arts variants is mixed martial arts. According to the Mixed Martial Arts Zone website, “As of 2004, over 6.9 million Americans were actively practicing martial arts.” Though martial arts today are associated primarily with fighting, their intense physical regimens make them beneficial as exercise. In addition, many law enforcement agencies and police departments here and abroad have incorporated martial arts into their training. While each of these uses can be legitimate, in practice the culture of traditional martial arts is often neglected.

According to Bruce Lee, “Martial arts... have the nature of art, since there is [an] emotional connection and complete emotional expression.” Lee is referring to the original culture of martial arts. This culture emphasizes self-discipline and spiritual well-being. In schools that honor this culture, a black belt must have trained for at least 7 years and be 18 years or older. Students must also complete a community service project as well as write an essay on character. By contrast, many schools in the US allow their students to obtain their black belt in as few as 2 years and the training is purely physical. This modern adaptation of martial arts emphasizes violence and disregards the self-discipline and control found through learning the traditional culture.

Incorporating what I have learned from physics with kinesiology will help me understand the biomechanical principles of martial arts, and coursework in philosophy and Asian Studies will cover the culture behind these movements. In addition to studying something that I’m passionate about, the ultimate goal in creating this minor is to educate people about the difference between legitimate and illegitimate martial arts practice.

Why are you interested in studying this topic?

From a very young age, my mother wanted me to be a ballerina. She put me in ballet, tap, jazz, and gymnastics because she thought these sports were appropriate for a girl. But by the age of 10, my direction turned elsewhere. I saw my first Bruce Lee film and was intrigued at how he could kick and punch. Almost 13, I started practicing Taekwondo, engaging myself in classes that incorporated sparring techniques, self-defense, and forms (katas). However, I was always scared to learn moves that could potentially break a bone. One day, I had to learn how to break a board; it looked so easy watching the instructor do it. When it was my turn to go, however, the board remained defiantly intact. My instructor explained to me that I had the right technique but my mind was blocking me. After a physics explanation on how my technique could break the board, I felt more relaxed. After a second try, the board split in
two. I was not even 14.

My Taekwondo training became more and more diverse as I started exposing myself to different types of martial arts. From Chinese to Korean styles, I found similarities between each style and used what I learned from one to improve another. What amazed me the most was that I could actually DO these moves. I learned that the body was capable of extreme movements as long as the person had the proper training.

After a year of practicing with the competition team, I tried out for the USA team and made it. I spent 4 years in total practicing 6 days a week to compete internationally in countries such as Spain and Germany. With such commitment, I realized that besides the physical aspect, martial arts involved a lot of mental training. Throughout my years of practice, I’ve learned much about determination and the importance of sincerity in my actions. As much as I love the physical aspect of martial arts, I can easily say that these latter attributes are the most valuable tools that I’ve received throughout my training.

I am now a first degree black belt; many quit after receiving their belt, never realizing their journey has just begun. I look forward to learning the philosophy behind mine. By studying kinesiology, physics, and different perspectives of Asian studies, I look forward to learn how to complement my ongoing training.

Name two faculty with research interests in your area. Include their home departments and relevant research interests. If a research interest isn’t obviously related to your topic, explain its relevance.

Dr. Stephen Phillips
Philosophy
Yoga and Indian philosophy

Dr. Lawrence Abraham
Kinesiology
Neuromotor coordination and biomechanics

Explain how each course is relevant to this field. What do you hope to learn from each?

Primary Courses

ANS 372 Yoga as Philosophy and Practice

The course studies the origin of yogic practice through contemporary philosophers and medical researchers. Yoga is mostly understood as the physical postures and movements of the body. However, this course focuses on the study of the Yoga-sutra by Patanjali. This will help me understand the mentality of martial arts and how it ties in with the physical body.
This course teaches the applied scientific analysis of movement in the human body. I have spoken with the instructor, Dr. Abraham, and he believes this course will be appropriate for my proposed minor. Using examples drawn from sports and rehabilitation, the course will aid me in understanding the underlying mechanisms of movement in martial arts.

**Alternate Courses**

**ANS 301M** Introduction to Buddhism

This course will provide me with a historical and structural overview of Buddhism as well as the differences and similarities between Buddhism and Western philosophies. In literature, martial arts has been connected with Buddhism for nearly two millenia. This course can help me understand how Buddhism has influenced the practice of martial arts.

**ANS 302C** Introduction to China

According to its description, this course introduces the study of “Chinese society and culture through an examination of the cultural unities and diversities, continuities and discontinuities that comprise the historical development of Chinese civilization.” Nowadays, I mainly practice the martial art called Wushu, which originated in China 4,000 years ago. This martial art is one of the most well known because of its appearances in Western films by Jet Li and Jackie Chan. Wushu has changed from a traditional to a more contemporary and flashy style that appeals to people unfamiliar with the art, both within China and beyond. By studying China’s history, I could learn how changes in Chinese civilization have contributed to the changes in Wushu and how they have influenced the development of other martial arts.

**KIN 320** Applied Biomechanics of Human Movement

This course teaches the applied scientific analysis of movement in the human body. I have spoken with the instructor, Dr. Abraham, and he believes this course will be appropriate for my proposed minor. Using examples drawn from sports and rehabilitation, the course will aid me in understanding the underlying mechanisms of movement in martial arts.

**KIN 324K** Applied Human Anatomy

This course will help me identify the muscles and bones of the body and their relationship with other muscles and bones. By studying their connections, I will have a greater understanding of body movement and can apply it to the movements found in martial arts.