Announcing the Final Examination of Aaron Yeaton for the degree of Doctor of Philosophy

Time & Location: November 6, 2015 at 9:00 AM in Engineering II 310
Title: BODY MASS BIAS MITIGATION FOR FEMALES IN MILITARY PHYSICAL READINESS TESTING THROUGH LOAD CARRIAGE IMPLEMENTATION

Physical readiness tests in the military have seen little, if any adaptation, since they were instituted in the late 1970s. Substantial increases in the presence of women in the U.S. Armed Forces, means this lack of adaptation and research has presented a gap in the body of knowledge regarding the appropriateness of current Physical Readiness Tests in evaluating fitness levels for female soldiers. Additionally, current Physical Readiness test are inherently bias toward women given the current testing protocols. This research addresses this issue by investigating the efficacy of load carriage to eliminate mass bias towards females found within the current Physical Readiness Tests of the U.S. Military. The study identified 35 research participants who fit the current female military demographics to perform fitness testing which involved push-ups, curl-ups, and a 1.5 mile timed run. The research methodology required each participant to perform this series of physical activities both with and without weighted vests to determine if the treatment had an overall effect on the correlation between weight and performance. Findings showed that there was a significant decrease in correlation for all component exercises of the fitness testing which concludes the weighted vests did indeed mitigate the bias toward female participants.

Research based recommendations were made for the modification and application of this load carriage technique in larger studies and for continued research in the realm of Physical Readiness pertaining to women in the military.

Major: Industrial Engineering

Educational Career:
Bachelor's of Nuclear Engineering , BS, 2007, THOMAS EDISON STATE COLLEGE
Master's of Industrial Engineering , MS, 2009, UNIVERSITY OF CENTRAL FLORIDA

Committee in Charge:
Dr. Pamela McCauley, Chair, Industrial Engineering & Management Systems
Luis Rabelo, Industrial Engineering & Management Systems
Gene Lee, Industrial Engineering & Management Systems
Nancy Cummings, Kansas Wesleyan University

Approved for distribution by Dr. Pamela McCauley, Committee Chair, on November 6, 2015.

The public is welcome to attend.